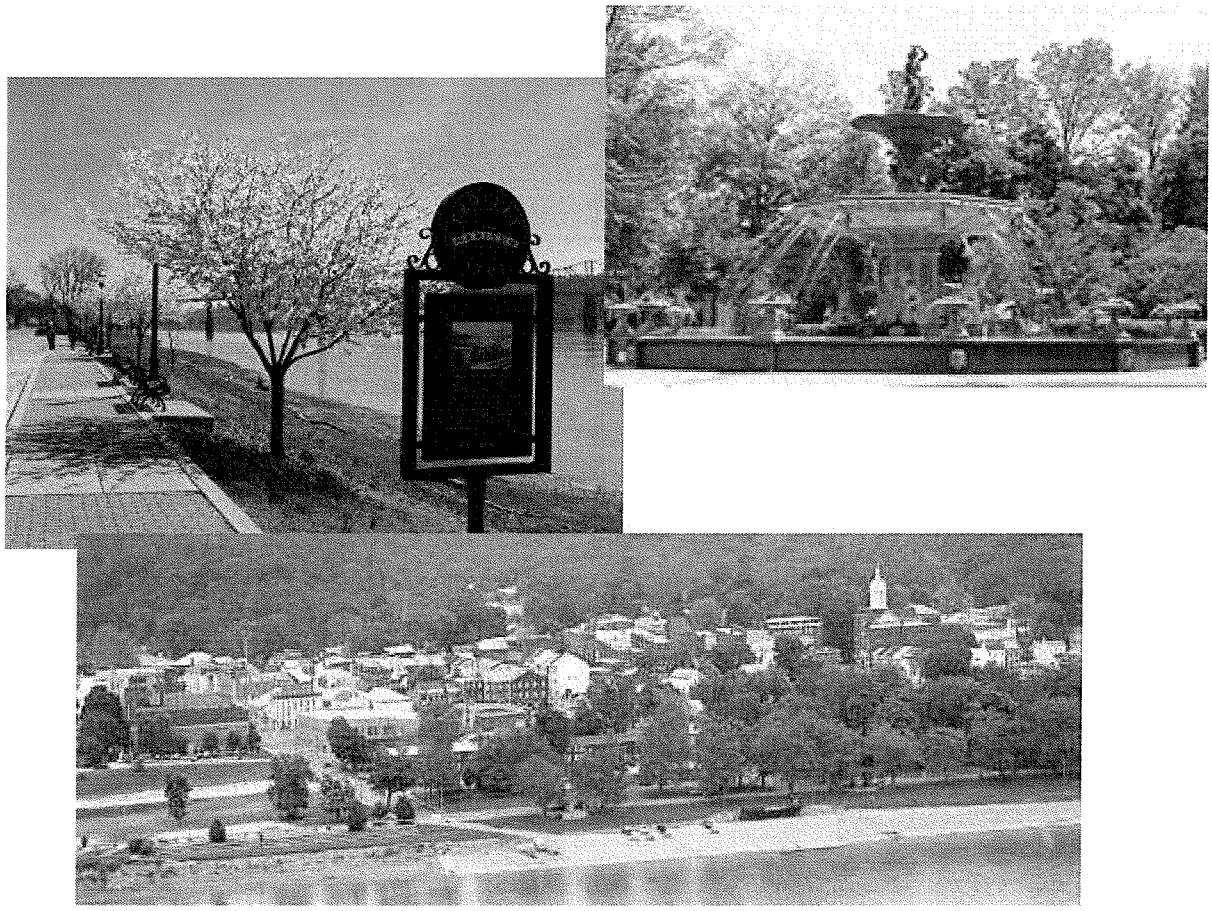
City of Madison, Indiana
Storm Water Quality Management Plan
Permit Year 3 Annual Report



Permit # INR040061

May 4, 2007

RULE 13 ANNUAL REPORT

State Form 51278 (R2 / 11-03)
INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

For questions regarding this form, contact:
IDEM – Rule 13 Coordinator
100 North Senate Avenue, Rm 1255
P.O. Box 6015
Indianapolis, IN 46206-6015
Phone: (317) 234-1601 or
(800) 451-6027, ext. 41601 (within Indiana)
Web Access:
http://www.in.gov/idem/water/npdes/permits/wetwthr/storm/rule13.html

NOTE: In order to comply with 327 IAC 15-13-18, annual reports must be submitted to the Indiana Department of Environmental Management. Failure to submit this form will be considered noncompliance with your permit.
For the first five (5)-year permit term, this completed form must be submitted by 1 year from the SWQMP – Part C submittal date and, thereafter, 1 year from the previous report (i.e., in years two (2) through five (5) of permit coverage).
In the second and subsequent five (5)-year permit terms, this completed form must be submitted in years two (2) and four (4) of permit coverage, by 1 and 3 years from the SWQMP – Part C resubmittal date.
Please type or print in ink.
Please answer all questions thoroughly and return the form by the due date.
Return this form and any required addenda to the IDEM Rule 13 Coordinator at the address listed in the box on the upper-right.

REPORTING YEAR (Check one)
☐ 2005
☐ 2006
☒ 2007
☐ 2008
☐ 2009
☐ 2010
☐ 2011
☐ 2012
☐ 2013

PART A: GENERAL INFORMATION – MS4 OPERATOR

1. Report Completed By: Honorable Al Huntington, Mayor
(MS4 Operator — i.e., name of permit holder)

2. Permit Number: **INR 0 4 0 061**

3. Mailing Address
Street Address: 101 W. Main St.
Madison, IN 47250
(812) 265-8312

☒City ☐Town	**Of:** Madison	Zip: 47250	County: Jefferson

PART B: GENERAL INFORMATION – CONTACT PERSON

4. Contact Person Name (please print): Mr. Steve Gill

5. Contact Person Title: Acting City Engineer

6. Phone Number: (812) 265-8326

7. Facsimile Number (if applicable): (812) 273-0575

8. E-mail Address (if applicable): utilitymanager@madison-in.gov

PART C: CONTROL MEASURE ACTIVITIES

9. For the following items, please provide a summary of control measure activities related to Rule 13 performed during the previous year.
List any updated measurable goals from the SWQMP, compliance activities, BMPs installed or initiated, updated programmatic indicator data, and updated or developed regulatory mechanisms with effective dates.

- Public Education and Outreach:

  See Chapter 1. Public Education and Outreach.

- Public Involvement and Participation:

  See Chapter 2. Public Involvement and Participation.

- Illicit Discharge Detection and Elimination:

  See Chapter 3. Illicit Discharge Detection and Elimination.

- Construction Site Storm Water Run-off Control:

  See Chapter 4. Construction Site Run-off Control.

- Post Construction Storm Water Management in New Development and Redevelopment:

  See Chapter 5. Post Construction Stormwater Management.

- Pollution Prevention and Good Housekeeping for Municipal Operations:

  See Chapter 6. Pollution Prevention and Good Housekeeping.

- Other controls:

  None.

10. List all receiving water(s) and corresponding outfall(s) not submitted in the original NOI letter (form):

None.

11. Provide any data regarding the following programmatic indicators, since the previous annual report (Attach separate sheets as necessary, and indicate, as appropriate, the rationale behind not using a listed indicator):

i. Number or percentage of citizens that have an awareness of stormwater quality issues:

- An estimated 225 fifth grade students from Madison Consolidated public schools were reached through nine (9) classroom presentations made during the current reporting period of May 2006 through April 2007.
- Between August 8 and November 4, 2006 Hanover College River's Institute conducted a public survey regarding stormwater management which followed an eight-minute educational video. One-hundred and twenty (120) people completed the survey booklets.
- Ten (10) Madison Consolidated High School students were involved in the Environmental Club.
- Approximately 200 copies of a stormwater education flyer were also distributed as part of the public education program in January and February 2007 (8 classes of fifth graders); the flyer was also posted on Madison's webpage and made available in City Hall and Venture Out Business Center.
- A stormwater article was published in the August 16, 2006 issue of the Madison Courier, the only daily newspaper for the City of Madison and Jefferson County.
- Stormwater educational displays were posted in City Hall in April to correspond with Earth Day.
- The City of Madison developed educational content for a stormwater web-site. That web-based information was linked to Madison's existing website.
- The Jefferson County Soil and Water Conservation District held two (2) Hoosier River Watch training sessions in PY03. Four (4) people attended on March 15, 2006 and five (5) people attended on June 16, 2006.

ii. Number and description of meetings, training sessions, and events conducted to involve citizens:

- Approximately two-hundred and twenty-five (225) fifth-grade students from Madison Consolidated public schools were reached through nine (9) classroom presentations made between May 2006 and April 2007.
- The Public Survey work performed by Hanover College River's Institute initially involved 3 focus group meetings (6/20, 7/11, and 7/20/06) reaching a group of twenty-two (22) citizens.
- Between August 8 and November 4, 2006 two (2) students at Hanover College River's Institute conducted a public survey which followed an eight-minute educational video. One-hundred and twenty (120) people completed the survey booklets.
- In the summer of 2006, two (2) students of Madison Consolidated High School mapped and photographed Madison's stormwater features.
- Two City Council presentations were made on the City's stormwater program; 6/20/06 and 8/15/06.
- Ten (10) Madison Consolidated High School students were involved in the Environmental Club, seven (7) monitored aquatic biology using Hoosier River Watch techniques, and seven (7) were involved in the North American Amphibian Monitoring Program (NAAMP).
- Project Wet was used as a tool for by several teachers in Madison's school system to educate on water resource management.
- The Jefferson County Soil and Water Conservation District held two (2) Hoosier River Watch training sessions in PY03. Four (4) people attended on March 15, 2006 and five (5) people attended on June 16, 2006.

iii. Number or percentage of citizens that participate in stormwater quality improvement projects:

- Between August 8 and November 4, 2006 two (2) students at Hanover College River's Institute conducted a public survey which followed an eight-minute educational video. One-hundred and twenty (120) people completed the survey booklets. Over eighty percent were Madison residents.
- In the summer of 2006, two (2) students of Madison Consolidated High School mapped and photographed stormwater features.
- Ten (10) Madison Consolidated High School students were involved in the Environmental Club, seven (7) monitored aquatic biology using Hoosier River Watch techniques, and seven (7) were involved in the North American Amphibian Monitoring Program (NAAMP).
- Project Wet was used as a tool for by several teachers in Madison's school system to educate on water resource management.
- The Jefferson County Soil and Water Conservation District held two (2) Hoosier River Watch training sessions in PY03. Four (4) people attended on March 15, 2006 and five (5) people attended on June 16, 2006.

iv. Number and location of storm drains marked:

Fifty (50) storm drains in the downtown area of the City have been labeled.

v. Estimated or actual linear feet or percentage of MS4 conveyances mapped:

During PY03 3,590 feet (0.68 miles) of channels, 125,770 feet (23.82 miles) of ditches, and 40,603 feet (7.69 miles) of pipes were mapped, as well as 912 stormwater point features including: catchbasins, inlets, outlets, manholes, and outfalls.

vi. Number and location of MS4 area outfalls mapped:

During PY03, seventy-four (74) outfalls were mapped. See **Appendix 3.2** for locations.

vii. Number and location of MS4 area outfalls screened for illicit discharges:

During PY03, seventy-four (74) outfalls were screened for illicit discharges. See **Appendix 3.2** for locations.

viii. Number and location of illicit discharges detected:

One (1) illicit discharge at 425 Clifty Drive was detected during PY03.

ix. Number and location of illicit discharges eliminated:

Four (4) illicit discharges were found during the current and previous permit years were eliminated during PY03: 425 Clifty Drive; 312 East Fifth St; 407 East Fifth St; 2102 Wilson Ave.

x. Number of, and estimated amount of material collected from, HHW collections:
One (1) household hazardous waste (HHW) collection site at the Jefferson Proving Grounds in Jefferson County serves 6 surrounding counties (Franklin, Ripley, Scott, Switzerland, Ohio, Jefferson, Jennings). Approximately 60 – 75 citizens participate in HHW program.
xi. Number and location of citizen drop-off centers for automotive fluids:
Automotive fluids are accepted at Jefferson Proving Ground – Southeastern Indiana Solid Waste Management District (SISWMD) Recycling Center located at 6556 N. Shun Pike Rd in Madison and Jefferson County Highway Garage located at 1315 Clifty Dr in Madison, IN. Several private retailers also accept automotive fluids.
xii. Number or percentage of citizens that participate in HHW collections:
Approximately 60 – 75 people participate in HHW collections.
xiii. Number of construction sites permitted for stormwater quality:
The City's construction site runoff ordinance was passed on November 21, 2006. Two (2) construction site plans have been submitted for review to date. One has been submitted NOI; second plan is under review.
xiv. Number of construction sites inspected:
The City's construction site runoff ordinance was passed on November 21, 2006. Two (2) construction site plans have been submitted for review to date. One has been submitted NOI; second plan is under review.
xv. Number and type of enforcement actions taken against construction site operators:
None to date. The City's construction site runoff ordinance was passed on November 21, 2006.
xvi. Number of public informational requests received related to construction sites:
None through the City.
xvii. Number, type, and location of structural BMPs installed:
The City owns two (2) retention ponds, (a pond at the City's golf course and a lake in Johnson Lake Park) which were installed prior to the PY 03 reporting period.
xviii. Number, type, and location of structural BMPs inspected:
The ponds at the City's golf course and the small lake at a City park were functioning properly during PY03 and no maintenance was required or performed.
xix. Number, type, and location of structural BMPs maintained, or improved, to function properly:
The ponds at the City's golf course and the small lake at a City park were functioning properly during PY03 and no maintenance was required or performed.
xx. Type and location of non-structural stormwater quality BMPs utilized:
The City of Madison's Post-Construction Stormwater Management Ordinance was passed on February 20, 2006. Since that time, two (2) projects have been submitted to the City.
xxi. Estimated acreage or square footage of open space preserved and mapped:
Approximately 225 acres of open space and parks were available within the City of Madison.
xxii. Estimated acreage or square footage of mapped pervious and impervious surfaces:
Data were not available.
xxiii. Number and location of retail gasoline outlets or municipal, state, federal, or institutional refueling areas with installed BMPs:
At the City Garage, all bulk storage materials (oil and antifreeze) are located in a containment facility. Gas & Diesel underground storage tanks (USTs) are registered through IDEM and feature modern leak detection equipment.
xxiv. Number and location of entity facilities that have containment for accidental releases:
All bulk storage materials (oil and antifreeze) at City garage were located in a containment facility; gas and diesel UST's were registered through IDEM and feature modern leak monitoring equipment.
xxv. Estimated acreage or square footage and location where pesticides and fertilizers are applied by the regulated MS4 entity:
Approximately 185 acres throughout the City were treated as needed with fertilizer, herbicides and/or pesticides (golf course; Rucker sports complex; Lamplighter Park; Broadway Street medians, pesticides in downtown streets / curb areas).
xxvi. Estimated linear feet or percentage and location of unvegetated swales and ditches that have an appropriately-sized vegetated filter strip:
The golf course features buffer zones between 10-ft and 80-ft wide along all creeks and ditches.
xxvii. Estimated linear feet or percentage and location of MS4 conveyances cleaned or repaired:
Approximately 500 feet of MS4 conveyances were cleaned in PY03.
xxviii. Estimated linear feet or percentage and location of roadside shoulders and ditches stabilized:
Between 500 and 2,000 ft of ditch/swale work was performed in PY03.
xxix. Number and location of stormwater outfall areas remediated from scouring conditions:
None in PY03.
xxx. Number and location of de-icing salt and sand storage areas covered or otherwise improved to minimize stormwater exposure:
All salt was stored in a 450 ton capacity covered building at the City Garage located at 1215 Walnut St, Madison, IN 47250.
xxxi. Estimated amount, in tons, of salt and sand used for snow and ice control:

In PY03, approximately 550 tons of salt were used for snow and ice control in Madison.
xxxii. Estimated amount of material by weight collected from catch basin, trash rack, or other structural BMP cleaning:
Between 50 and 75 cubic yards of material were removed from the City MS4; work took 10-15 days; on average, 20 inlets were cleaned per day.
xxxiii. Estimated amount of material by weight collected from street sweeping:
Street sweeping was conducted during April-November. Each street in the downtown area (24 miles) was swept approximately once weekly. The Hilltop streets (35 miles) were swept once per month or as needed. An estimated 100 cubic yards of material was collected in PY03. Both areas were swept in December for leaf pickup.
xxxiv. Number or percentage and location of canine parks sited at least 150 feet away from a surface water body:
A new one-acre canine park, Madison Riverfront Dog Park, is planned in Madison's downtown at the corner of Mill and Vaughn Streets.

PART D: MISCELLANEOUS INFORMATION

12. On-Going Water Quality Characterization Activities

The City of Madison conducted a bioassessment study to obtain water quality data for the watersheds involved in the stormwater program. The initial testing of the MS4's waterways was completed to develop a baseline characterization which was reported in the City's Part B submission. The goal of the monitoring program was to develop an assessment of structural and non-structural BMPs along with maintaining BMPs currently used, to reduce pollution in these waterways. The next bioassessment study will be conducted during the third quarter of 2008.

13. Discuss any problems encountered during this period (include any BMP changes in response to problems encountered).

None.

14. Identify any new funding source(s) for implementing this permit.

None.

15. Identify any non-routine (i.e. do not include routine maintenance or cleaning) budgetary transactions related to your permit. List all stormwater improvement projects started during this reporting period.

None.

16. Provide a summary of complaints received and the follow-up actions taken in reference to stormwater quality issues.

None.

17. Implementation status:

a. Are the six minimum control measures being implemented within the compliance schedule and SWQMP timetables?
☒Yes ☐No*
* If no, explain:

b. Do you foresee any problems which may affect full implementation of all the measures?
☐Yes ☒No*
* If yes, explain:

c. Are the six minimum control measures meeting percent reduction goals specified in the SWQMP?
☒Yes ☐No*
* If no, explain:

PART E: CERTIFICATION AND SIGNATURE

► **The individual completing this report, listed in "PART A: GENERAL INFORMATION – MS4 OPERATOR" must sign the following certification statement:**

"By signing this Rule 13 annual report, I hereby certify under penalty of law that this document and all attachments are prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Type or Print Name: Honorable Al Huntington, Mayor

Signature: Al Huntington

4/27/07 (mm/dd/year)

City of Madison, Indiana
Stormwater Quality Management Plan
Permit Year 3 Annual Report

Table of Contents

Section **Page No.**

Table of Contents
(Continued)

Section **Page No.**

List of Figures

Figure **Page No.**

Table of Contents
(Continued)

List of Appendices

Table of Contents
(Continued)

City of Madison, Indiana
Stormwater Quality Management Plan
Permit Year 3 Annual Report

Acknowledgements

The following individuals and organizations have participated in the development of the City of Madison's Storm Water Quality Management Plan and Annual Report:

Mayor

Al Huntington

City Council

Bob Schoenstein

Bob May

Mary K. Dwyer

Jim Lee

Don Joslin

David Adams

David Carlow

Board of Public Works and Safety

Al Huntington

Robert Barlow

Jim Lee

Public Works and Utilities Director

Jim Turner, P.E. Previous City Engineer

Steve Gill, Interim City Engineer

City of Madison, Indiana
Stormwater Quality Management Plan
Permit Year 3 Annual Report

Introduction

This report summarizes the City of Madison, Indiana's efforts to implement its Storm Water Quality Management Plan (SWQMP) from May 1, 2006 through April 30, 2007 (Permit Year 03). During the Permit Year (PY), the City of Madison implemented the required components of the SWQMP as described herein.

The City of Madison is located in Jefferson County in southeastern Indiana along the north shore of the Ohio River, approximately 50 miles east Louisville and 75 miles west of Cincinnati. The area along the City's riverfront consists of approximately 1,500 historic residential, commercial and industrial structures. In this area, the Ohio River continues to serve as a major commerce route. The City of Madison and Jefferson County offer many opportunities for economic development, culture, and recreation. The most current population estimate for Madison is 12,443 (2005 census estimate). This is a slight increase from the 1990 census population of 12,004 over a total of 5,597 households and population density of 1,402 people per square mile.

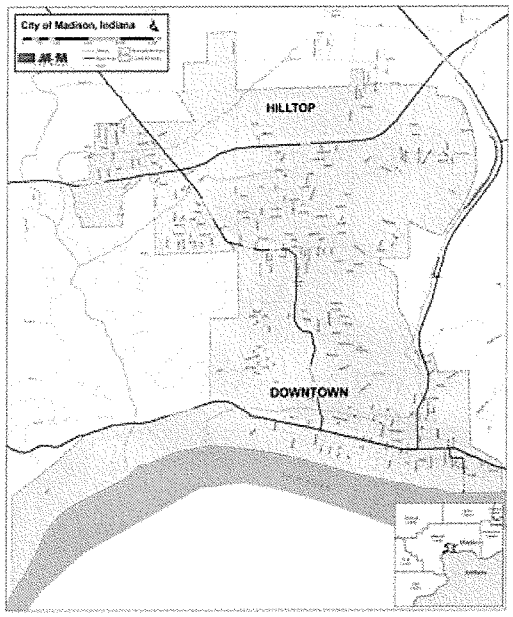


Figure 1.1. Madison, Indiana MS4 Area Map

For the purposes of this report, the City of Madison's MS4 area refers to the entirety of the City's corporate boundary as illustrated in **Figure 1.1 Madison, Indiana MS4 Area Map**. The detailed corporate boundary map of the City of Madison is provided in **Introduction Appendix: Corporate Boundary Map of the City of Madison**.

Partnership with Hanover College

The City of Madison has partnered with the Rivers Institute at Hanover College to obtain assistance in the implementation of the Storm Water Quality Management Program (SWQMP). Rivers Institute staff and student interns have assisted the City of Madison during this reporting period on key tasks such as the development and implementation of the Public Survey and MS4 system mapping.

CSO Program Consistency

The City of Madison operates a combined sewer collection system. A final LTCP was submitted to IDEM in March 2006. IDEM responded in December 2006 with a proposed agreed judgment. As of February 2007, the City is negotiating with IDEM on different sections of the judgment. At this time, the CSO LTCP and Rule 13 Phase II programs are consistent and are not resulting in duplication of efforts.

1. Chapter 1: Public Education and Outreach

The success of the Stormwater Quality Management Program depends on securing the support of elected officials, municipal employees, regulated entities and citizens, i.e., stakeholders. To secure this support, the City is implementing a public education and outreach program on stormwater quality issues.

This chapter outlines the steps taken by the City of Madison during PY 03 to implement MCM 1. The City has initiated practical efforts to educate stakeholders within our MS4 and to provide opportunities and mechanisms for them to participate in the program.

1.1. Residential Public Survey:

The City of Madison will work with staff and students from the Rivers Institute at Hanover College to develop and implement a survey that measures the public's awareness of stormwater quality issues.

Measurable Goals: Initial survey completed by first quarter of 2006. Number and percentage of completed surveys, number and percentage of respondents with knowledge of stormwater programs.

Permit Year 03 Progress Report

The City of Madison worked with staff and student interns from the Rivers Institute at Hanover College to develop and implement a public survey. In developing the survey materials, focus group meetings were held on June 20 (8 attendees), July 11 (5 attendees), July 20 (9 attendees). These meetings were a valuable tool for developing effective survey materials as well as providing detailed information on stormwater to a group of citizens.

The final survey involved the use of a short video presenting basic information regarding Madison's stormwater issues followed by a questionnaire. This survey was presented to the public at various venues around the City between August 8, 2006 and November 4, 2006. For slides used during the public survey see **Appendix 1.2**. A total of one-hundred and twenty (120) questionnaires were completed. Nearly eighty percent of the surveys were completed by Madison residents. Analysis of the results was performed by Rivers Institute staff and the results were summarized in report form (see a copy of this report in **Appendix 1.1: Enhancing Understanding of Stormwater Management: Mapping a Municipal System and Assessing Public Preferences**).

1.2. Stormwater Quality Web Page:

The City of Madison will develop a web page accessible from the City's homepage to communicate the goals and objectives of the stormwater program. The web page will provide information on stormwater activities and dates and solicit feedback on the program.

Measurable Goals: The webpage will be developed by the first quarter of 2006. The City will track and report upon the number of stormwater quality forms posted, the number of emails received, the number of times the web page is updated and number of web hits.

Permit Year 03 Progress Report

The City of Madison developed content for a stormwater web-site. That web-based information was linked to Madison's existing website and contains a citizen's guide to understanding stormwater pollution, information on stormwater terms, a summary of Madison's Stormwater program, as well as information on stormwater basics. Site was updated in April 2007.

The address of this site is as follows: http://www.madison-in.gov/

No emails have been received to date. Number of hits was not tracked during PY03, but will be tracked and reported in next PY.

1.3. Printed Flyers or Pamphlets:

The City of Madison used printed flyers and pamphlets to communicate the goals and objectives of the program and generate interest for public participation. Printed materials were distributed to public libraries, at the utility office and at local businesses.

Measurable Goals: Distribute printed materials through public libraries, the utility office and local businesses by September 30, 2006. The City will track and report upon the number of printed materials, distribution locations, number of printed materials distributed. The per capita distribution will be calculated.

Permit Year 03 Progress Report

The City of Madison developed a one-page stormwater flyer. Copies of the flyer were made available for public distribution in the lobby of City Hall and at the Venture Out Business Center on Madison's hilltop. Approximately 200 copies of the flyer were also distributed as part of the public education program in January and February 2007 (8 classes of fifth graders). A copy was made available on Madison's Website. Using the best available estimate of 5,597 households have received this flyer, this distribution equates to one flyer per 28 households. A copy of this flyer is provided in **Appendix 1.3**.

1.4. Newsletter / Newspaper Article:

To reach a broad audience, City staff will work with the local newspaper, the Madison Courier, towards the publication of stormwater-themed articles. These articles will emphasize that Madison holds a stormwater quality permit with IDEM and that the stormwater program will involve a number of different tasks.

Measurable Goals: The City will report on the date and circulation of the newspaper in which the stormwater articles are published.

Permit Year 03 Progress Report

One newspaper article on the stormwater program was published during PY03. This article was printed in the August 16, 2006 issue of the Madison Courier, the only daily newspaper for the City of Madison and Jefferson County. The subject of the article was the storm sewer mapping project; the two interns involved in that work had made a presentation on that

project at the August 15 Madison City Council meeting. See **Appendix 1.4** for a copy of this article.

1.5. Educational Displays:

The City of Madison will develop an educational display to communicate the goals and objectives of the program to targeted audiences and to generate interest for public participation.

Measurable Goals: The City of Madison will develop the educational display by September 30, 2006 and will document and report upon the date and location of the event and estimate the number of MS4 constituencies reached during the event.

Permit Year 03 Progress Report

The City of Madison developed posters for educational displays. The posters were completed on April 11, 2007. The posters were posted in April to correspond with Earth Day. A sample (8.5 x 11 inch) of the poster used is included in **Appendix 1.5**.

1.6. CSO Program Consistency:

A final LTCP was submitted to IDEM in March 2006. IDEM responded in December 2006 with a proposed agreed judgment. As of February 2007, the City is negotiating with IDEM on different sections of the judgment. At this time, the CSO LTCP and Rule 13 Phase II programs are consistent and are not resulting in duplication efforts.

2. Chapter 2: Public Participation and Involvement

This chapter outlines the approach by the City of Madison to facilitate and encourage participation by elected officials, municipal employees, regulated entities and citizens within the City in the development and implementation of the SWQMP. The PY 03 efforts of the City to promote public participation and involvement are discussed below.

2.1. Public Presentations:

The City of Madison will use public presentations about stormwater quality programs to communicate the goals and objectives of the program to elected officials, municipal employees, regulated entities and citizens.

Measurable Goals: Deliver two (2) presentations to the Madison City Council or Board of Works during the current permit term. Make additional presentations to other community groups as requested.

Permit Year 03 Progress Report

Two public presentations were made during this reporting period. The first presentation took place at the June 20, 2006 Madison City Council meeting. This presentation included a review of the Rule 13 regulations along with a discussion of Madison's Storm Water Quality Management Plan. Copies of the slides used at the June 20 presentation are included in **Appendix 2.1**. A second presentation was made at the August 15, 2006 City Council meeting. The subject of this presentation was the storm sewer mapping work that had been performed by two students from Hanover College and Madison Consolidated High School. Because they were made at a City Council meeting, both of these presentations were replayed numerous times on public access television.

2.2. Children's Education Programs:

The City of Madison will use the Children's Education Program to educate children about stormwater. The City has chosen to focus this program on fifth grade classes at three elementary schools located within the City of Madison (M.W. Anderson, Lydia Middleton, and E.O. Muncie).

Measurable Goals: Make one (1) presentation annually to each of the seven (7) fifth grade classes serving approximately one-hundred and seventy (170) students.

Permit Year 03 Progress Report

During this reporting period, presentations were made to nine (9) fifth grade classes, reaching a total of approximately 225 students. Those presentations took place on May 22, 2006 (1 class, M.W. Anderson), January 22, 2007 (1 class, E.O. Muncie), January 26, 2007 (2 classes, M.W. Anderson), February 1, 2007 (1 class, E.O. Muncie), and February 8 (3 classes, Lydia Middleton and 1 class, E.O. Muncie). Presentation slides are included in **Appendix 2.2: Children's Education Presentation** and **Appendix 2.3: Children's Education Presentation**.

2.3. Household Hazardous Waste and Used Oil Disposal Programs:

By providing citizens with a safe and appropriate way to dispose of their household hazardous waste (HHW), dumping (i.e., illicit discharges) to storm drains are anticipated to be reduced.

Measurable Goals: The City of Madison will compile and report HHW data from the Southeastern Indiana Solid Waste District (SISWD) and distribute information to encourage citizen participation in the program.

Permit Year 03 Progress Report

Household Hazardous Waste (HHW) collection and disposal in the City of Madison is performed through the Southeastern Indiana Solid Waste District (SISWD). Their main collection facility is located approximately 3 miles north of Madison on the former Jefferson Proving Grounds military property. They also operated a separate automotive fluid collection facility at the Jefferson County Highway Garage which is located approximately 2 miles west of Madison.

To help publicize their services, Madison's stormwater web page information includes a phone number and web address for Southeastern Indiana Solid Waste District (SISWD).

2.4. Storm Drain Labeling Program:

The City of Madison will use the storm drain labeling program to communicate to the general public that storm drain pollutants are discharged directly to the river.

Measurable Goals: Mark a minimum of fifty (50) city owned storm sewer inlets per year.

Permit Year 03 Progress Report

Fifty (50) storm drains were labeled with stormwater decals in the downtown area.

2.5. CSO Program Consistency:

A final LTCP was submitted to IDEM in March 2006. IDEM responded in December 2006 with a proposed agreed judgment. As of February 2007, the City is negotiating with IDEM on different sections of the judgment. At this time, the CSO LTCP and Phase II programs are consistent and are not resulting in duplication efforts.

3. Chapter 3: Illicit Discharge Detection and Elimination

This chapter outlines the approach by the City of Madison to identify and eliminate illicit connections and discharges to the City's MS4. This approach includes measurable goals and timelines for mapping the stormwater drainage system, prohibiting illicit discharges, identifying problem areas via dry weather screening, and eliminating any illicit discharges that are found.

3.1. Storm Sewer Mapping:

The City of Madison will map the storm sewer system, including outfalls and conveyances required via 327 IAC 15-13-14. The map will assist with locating outfalls, conveyances and areas of illicit discharge concerns.

Measurable Goals: Mapping will be conducted to achieve 25% of the system mapping, per year, for years 2-5 of the permit term.

Permit Year 03 Progress Report

During this reporting period, the City of Madison worked with staff from FMSM Engineers, Madison Consolidated High School, and the Rivers Institute of Hanover College on the storm sewer mapping task. The field work was largely performed by student interns from Hanover College and Madison Consolidated High School using a handheld GPS unit and digital camera. The areas mapped included all of the downtown and a portion of the hilltop. During PY03 3,590 feet (0.68 miles) of channels, 125,770 feet (23.82 miles) of ditches, and 40,603 feet (7.69 miles) of pipes were mapped as well as 912 stormwater point features including: catchbasins, inlets, outlets, manholes, and outfalls. A Summary of Permit Year 03 MS4 System Mapping, as well as, a hard-copy of the current mapping is included in **Appendix 3.1** and **Appendix 3.2**, respectively.

3.2. Illicit Discharge Ordinance:

The City of Madison will develop an Illicit Discharge Detection and Elimination Ordinance specifying allowable and prohibited flows or discharges to the storm drain system. This ordinance will establish a regulatory mechanism to issue fines and penalties to those responsible for illicit discharges.

Measurable Goals: Adopt an Illicit Discharge Detection and Elimination Ordinance and submit the Program Certification form by September 30, 2006.

Permit Year 03 Progress Report

An illicit discharge ordinance was passed during this reporting period. Ordinance No. 2006-20 was first read on October 17, 2006 with its final adoption taking place at a third reading on November 21, 2006. Certification form 51271 was sent to IDEM on December 19, 2006. A copy of Ordinance 2006-20 and the 12/19/06 transmittal letter to IDEM is included in **Appendix 3.3** and **Appendix 3.4**, respectively.

Also, four (4) separate illicit discharges were eliminated prior to the passage of Ordinance 2006-20. These were located at 407 East 5th St, 410 East 5th St, 312 East 5th St, and 425 Clifty Drive. See **Appendix 3.5** and **Appendix 3.6** for copies of the notification letters.

3.3. Field Assessments:

The City of Madison will establish and implement an ongoing program for field assessments. The purpose of the program is to detect and eliminate illegal discharges and connections to the storm sewer system. Field assessments include outfall and manhole inspections and site inspections to track flows back to potential discharges.

Measurable Goals: Initiate the field assessment program in the 2nd quarter of 2007. Number and percentage of linear feet of storm sewer pipes inspected and number of illicit sources detected and eliminated.

Permit Year 03 Progress Report

A total of (40,603) linear feet of storm sewer pipe and (912) storm sewer structures were mapped during this reporting period and were inspected for illicit discharges.

One (1) illicit discharge at 425 Clifty Drive was detected during PY03. Four (4) illicit discharges were found during the current and previous permit years were eliminated during PY03; 425 Clifty Drive; 312 East Fifth St; 407 East Fifth St; 2102 Wilson Ave (See **Appendix 3.5** and **Appendix 3.6** for letters).

3.4. Public Employee Education:

The City of Madison will conduct three (3) training sessions during this permit term to raise employee awareness of the hazards associated with illicit discharge and improper disposal of waste. Training will be attended by at least one staff member from the Street, Water, Sewer, Wastewater Treatment Plant, and Parks Departments.

Measurable Goals: The City of Madison will conduct three (3) presentations during the first 5-year permit cycle.

Permit Year 03 Progress Report

The first of the public employee stormwater training seminars was conducted on January 10, 2007. It was attended by:

- Steve Horton, Fire Chief
- Keith Leatherman, Parks Department Maintenance Supervisor
- David Hawkins, Wastewater Treatment Plant Superintendent
- Greg Smithers, Sewer Collection System Superintendent
- Ron Geyman, Water Department Superintendent
- Mark Warner, Streets Department Superintendent

The content of the seminar included a review of federal and state stormwater quality regulations, an overview of Madison's Rule 13 program, a detailed discussion of illicit stormwater discharges, and a review of illicit discharge risks and remedies for the Parks, Utilities, and Street department operations. A copy of the sign-in roster and presentation slides used at this training are included in **Appendix 3.7** and **Appendix 3.8**.

3.5. CSO Program Consistency:

A final LTCP was submitted to IDEM in March 2006. IDEM responded in December 2006 with a proposed agreed judgment. As of February 2007, the City is negotiating with IDEM on different sections of the judgment. At this time, the CSO LTCP and Rule 13 Phase II programs are consistent and are not resulting in duplication efforts.

4. Chapter 4: Construction Site Stormwater Runoff Controls

This chapter outlines the approach by the City of Madison to develop and implement an erosion prevention and sediment control (EPSC) program within the City's MS4 area. This program includes measurable goals and timelines for establishing the regulatory authority to review EPSC plan submittals, issue permits, conduct field inspections and enforce an EPSC program.

4.1. Construction Site Runoff Ordinance:

The City of Madison will develop and adopt an ordinance to control polluted runoff from construction activities that disturb a land area of one (1) acre or more, or disturbances of less than one (1) acre that are part of a larger development that will ultimately disturb one (1) acre or more.

Measurable Goals: Adopt Construction Site Runoff Ordinance and submit the Program Certification form by September 30, 2006.

Permit Year 03 Progress Report

A construction site runoff ordinance was passed during this reporting period. Ordinance No. 2006-20 was first read on October 17, 2006 with its final adoption taking place at a third reading on November 21, 2006. Certification form 51272 was sent to IDEM on December 19, 2006. A copy of Ordinance 2006-20 and the 12/19/06 transmittal letter to IDEM is included in **Appendix 3.3 and Appendix 3.4**. A Monthly Construction Summary is included in **Appendix 4.9**.

4.2. Develop Plan Review Protocols:

The City of Madison will have procedures for site plan review of construction plans and permits that consider potential water quality impacts.

Measurable Goals: Procedures for site inspections will be written and implemented. The number of construction plans approved and disapproved per year will be reported to IDEM.

Permit Year 03 Progress Report

These procedures are described in the City's Construction Site Runoff and Post-Construction Ordinances found in **Appendix 4.1**.

4.3. Information Submitted by the Public:

The City of Madison will develop procedures to receive, consider and track public inquiries, concerns, and information regarding local construction activities. The City is required to acknowledge and consider public information submittals but follow-up, response, or enforcement actions are not required.

Measurable Goals: A system to track public inquiries, concerns and information is in place.

Permit Year 03 Progress Report

Currently, public inquiries are tracked through the City's Engineer's Office. As of April 12, 2007, no calls have been received.

5. Chapter 5: Post-Construction Stormwater Management

This chapter outlines the approach by the City of Madison to develop and implement a program to address discharges of post-construction stormwater runoff from new and redevelopment projects disturbing one or more acres of land within the City of Madison's MS4 area. This approach includes measurable goals and timelines for establishing the regulatory authority to enforce a post-construction stormwater management program, reviewing SWPPP plan submittals, issuing permits, enforcing BMP operation and maintenance requirements and conducting field inspections ensure compliance with the program.

5.1. Post-Construction Stormwater Management Ordinance:

The City of Madison has passed a Post-Construction Stormwater Management Ordinance. The Ordinance includes the minimum post-construction requirements of 327 IAC 15-5-6.5 (a)(8) for all projects disturbing one or more acres of land within the City or disturbances of less than one (1) acre that are part of a larger development that will ultimately disturb one (1) acre or more.

Measurable Goals: The City of Madison will adopt the Post-Construction Stormwater Management Ordinance and submit the Program Certification form three (3) months after the publication of the *Indiana Stormwater Quality Manual* or December 31, 2006, whichever occurs first.

Permit Year 03 Progress Report

A post-construction site runoff ordinance was passed by the City Council during this reporting period. Ordinance No. 2007-01 was first read on January 16, 2007 with its final adoption taking place at a third reading on February 20, 2007. Certification form 51274 is included in this submittal in **Appendix 4.8**. A copy of Ordinance 2007-1 is included in **Appendix 4.1**.

6. Chapter 6: Municipal Operations Pollution Prevention and Good Housekeeping

This chapter outlines the approach by the City of Madison to develop and implement a program to prevent or reduce pollutant runoff from municipal operations. This approach includes documenting maintenance activities and schedules, implementing pollution controls in operational areas, developing procedures for proper waste management, and employee training. The City of Madison has historically been proactive in the area of maintenance activities that reduce pollutants which could be discharged to the MS4.

6.1. Street Sweeping and Cleaning:

The City of Madison will provide street sweeping services to reduce pollutants in stormwater runoff by removing residuals, debris and litter from roads, streets and parking areas.

Measurable Goals: Operate a continuous program from April through November and report upon the number of times each street is swept and tons of debris collected.

Permit Year 03 Progress Report

The Madison Street Department owns and operates a Vac-All street sweeper. The City's street sweeping program involved the weekly sweeping of all downtown streets (approximately 24 miles) for the period of April through November, an estimated 3 cubic yards of solids were collected from these streets per week. Street sweeping was performed monthly or as needed in Madison's Hilltop area (35 miles) because most of the streets drain to roadside swales, so the benefits of a street sweeping program would be less substantial. However, the downtown area and the Hilltop were swept in December for leaf pickup. See **Appendix 4.2** for Madison's street sweeper. Madison has developed a cleaning schedule. See **Appendix 4.7**.

6.2. Sidewalks, Plazas, and Parking Lot Cleaning:

The City of Madison will implement good housekeeping practices to decrease pollutants on sidewalks, plazas and parking lots associated with litter and vehicle use. The Public Works and Utilities Director will work with the City Council to coordinate this program. This program is already underway.

Measurable Goals: Number of litter receptacles placed and maintained by the City, the area of the parking lots in the sweeping program and the amount of debris collected through the program.

Permit Year 03 Progress Report

The City routinely swept four (4) city-owned parking lots which cover 99,251 square feet. They are located on 2nd and Mulberry, Main and Poplar, Vaughn Drive, and Jefferson and 2nd. The volume of material cleaned from this lot was estimated to be less than 1 cubic yard of compacted waste. Downtown sidewalks in Madison were swept using the City's Tennant sidewalk sweeper. The frequency of sidewalk sweeping was largely dependent on the schedule of the various festivals that took place in Madison from May through September, and typically occurred once weekly. The sidewalk cleaning areas included Main Street,

Broadway Street, and Vaughn Drive. See **Appendix 4.2: Street Sweeper**. The City maintained 45 trash receptacles on Main Street and 22 on Vaughn Drive, which runs along the Riverfront.

The Department of Corrections collected an additional 2.5 tons of trash in PY03.

6.3. Street Medians, Parks and Other Municipal Landscaped Areas:

The City of Madison will operate maintenance programs for street medians, parks and other municipal landscaped areas. These programs reduce pollutants in stormwater runoff by minimizing erosion and pollutants from fertilizers and pesticides. The utility manager will work with the City Parks and Recreation Department to coordinate this program.

Measurable Goals: The City of Madison will track and report on the certified pesticide applicators employed and the number of training sessions conducted for city employees on this program.

Permit Year 03 Progress Report

The Streets Department employs two (2) people who are certified to apply herbicides and attend annual training sessions to maintain their certicifications. Madison Streets Department has written procedures for herbicide application.

The Parks Department employs two certified applicators who also attended a training session in PY03. The Parks Department was responsible for fertilizer and pesticide applications on the City's golf course. The golf course also features buffer zones between 10-ft and 80-ft wide along all creeks and ditches.

The irrigation system at Sunrise golf course has been inspected.

Sod and turf are used as natural erosion control on the riverfront and along roadway medians.

6.4. Stormwater Drain System Cleaning:

The City of Madison is responsible for maintaining a stormwater conveyance system including underground stormwater conveyance piping, curb and gutter roadways, and side ditches and swales with a bottom width of two feet or more. In addition, the City cleans and maintains a large number of catchbasins.

Measurable Goals: Develop and implement the storm drain system (MS4) cleaning by the first quarter of 2006. Track and report upon the number of inlets, basins and pipes inspected and the pounds of debris collected annually.

Permit Year 03 Progress Report

A written drain system cleaning schedule is included in **Appendix 4.7**.

The City's Vac-All street sweeper is equipped with a catchbasin cleaning attachment. Between 50 and 75 cubic yards of material were removed from the City MS4; work took 10-

15 days; on average, 20 inlets were cleaned per day. See **Appendix 4.2: Street Sweeper** and **Appendix 4.6: Stormwater Drain System Cleaning Log Sheet**.

6.5. Structural Best Management Practices (BMPs) Program:

The City will develop a strategy for maintaining the structural BMPs and for evaluating the possibility of developing future structural BMPs throughout the City.

Measurable Goals: The City will develop a written structural BMP inspection and maintenance schedule and a written structural BMP evaluation protocol developed as a cooperative effort among various city departments. The City will track and record the number of structural BMPs considered for implementation and the number of structural BMPs that are constructed.

Permit Year 03 Progress Report

The development of a written BMP inspection and maintenance schedule is in progress. There are two (2) City-owned structural BMPs. Both retention ponds are located in Madison: a pond at the City's golf course (Sunrise Golf Course) and a small lake at a City park (Johnson Lake Park). Both of these BMPs were functioning properly during this reporting period and no maintenance was required or performed. The water quality of both was expected to be relatively good given the fact that both provide good fish habitat. Specifically, Johnson Lake was a popular public fishing spot. See **Appendix 4.3: Structural Best Management Practices (BMPs)**.

The city intends to engineer a stormwater filtration basin for there new Bicentennial Park development this year. This design is not yet finalized, but is being considered.

6.6. Litter Pick-up:

The City of Madison will provide weekly litter pick-up service for all residential customers located within the City limits.

Measurable Goals: The City will track and report the tons of material collected and disposed of each year.

Permit Year 03 Progress Report

In PY03, an estimated 3,783.1 tons of trash were collected through this service. Trash was hauled to the City's transfer station where it was temporarily stored in a covered building prior to being hauled to a landfill. The transfer station featured an on on-site drainage system that routes runoff from the property to the sanitary sewer system. See **Appendix 4.4: Transfer Station Building**.

6.7. Street Department BMPs:

The City of Madison has several other BMP's in place that minimize the potential for stormwater pollution from storage yards, transfer stations, and other City operations.

Measurable Goals: Track and report on BMPs.

As part of the Street Department's snow removal operation, all salt was stored in a 450-ton capacity covered building. During the winter of 2006-07, the City used an estimated 550 tons of salt for snow removal.

- Containment / spill control measures were in place for all automotive fluids and other hazardous chemical stored at the Street Department's maintenance garage.
- Washing of City vehicles was performed in the Street Department's primary maintenance building. All wash-water runoff was routed to the sanitary sewer system via this building's floor drains.
- All fertilizer used by the City was stored in a covered building located at the Street Department complex.
- All gas and Diesel fuel distributed from the Street Department was stored in modern underground storage tanks (UST's) that feature leak detection equipment.

See **Appendix 4.5: Street Department BMPs**

6.8. CSO Program Consistency:

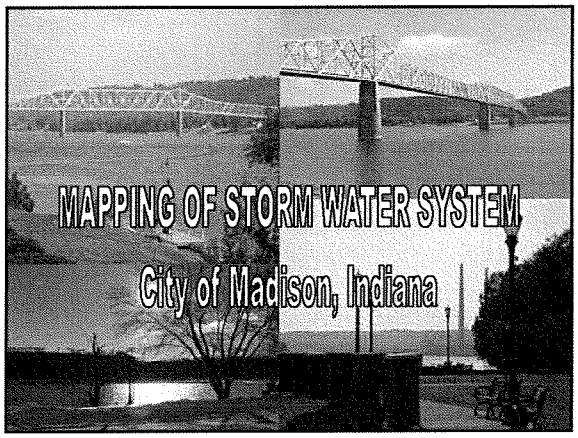
A final LTCP was submitted to IDEM in March 2006. IDEM responded in December 2006 with a proposed agreed judgment. As of February 2007, the City is negotiating with IDEM on different sections of the judgment. At this time, the CSO LTCP and Rule 13 Phase II programs are consistent and are not resulting in duplication efforts.

7. Chapter 7: Stormwater Program Budget

The City of Madison's stormwater program is currently being funded via local tax dollars appropriated through the City's general fund.

Introduction Appendix
Corporate Boundary Map of
the City of Madison

Appendix 1.1
Enhancing Understanding of Stormwater Management: Mapping a Municipal System and Assessing Public Preferences



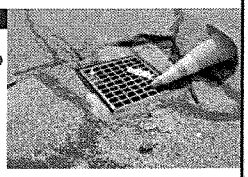
EPA's Phase II Storm Water Program

- **Expansion of Phase I**
  - **Municipalities with fewer than 100,000 residents**
  - **Construction sites smaller than 5 acres**
- **Focuses on reducing Non-Point Source Pollution**

Six Minimum Measures

- Public Education and Outreach
- Public Involvement/Participation
- Illicit Discharge Detection and Elimination
- Construction Site Runoff Control
- Post Construction Runoff Control
- Pollution Prevention/Good Housekeeping

Illicit Discharge Detection and Elimination



Develop a storm sewer map encompassing:
- Storm Inlets and Outlets
- Catchbasins
- Manholes
- Outfalls
- Pipes over 12 inches in diameter
- Channels with greater than 2-foot flat bottom
- Location of potential illicit discharges

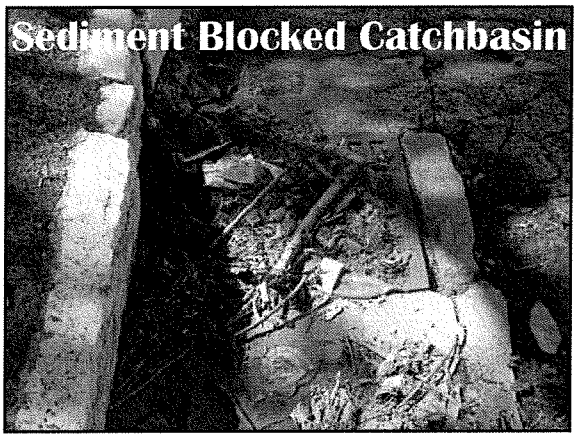
Geographic Information System (GIS)

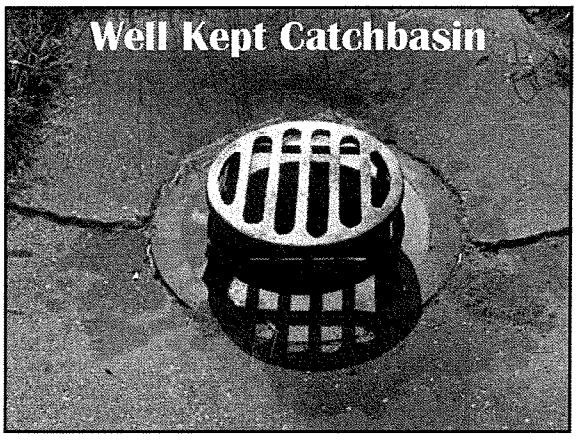
- GIS is a computer-based information system designed to facilitate integration and analysis of geographically referenced data onto a functional and useable map
- GIS mapping is the most applicable and easiest techniques for mapping

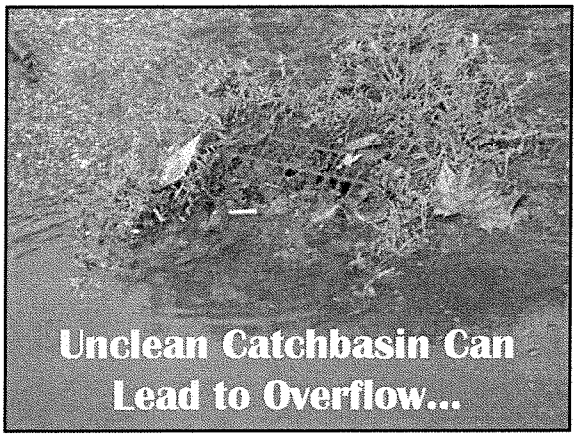
Data Collection

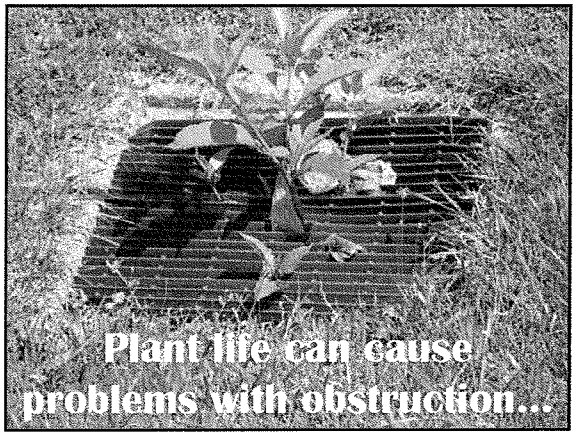
- Use hand-held Global Positioning System (GPS) unit for field data collection
- GPS is a satellite navigation system which help in accurately determining location in any weather, day or night, anywhere on Earth.

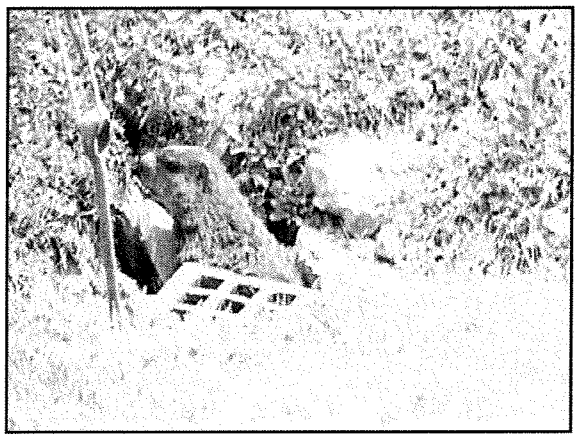

Sometimes Catchbasins are almost unrecognizable...

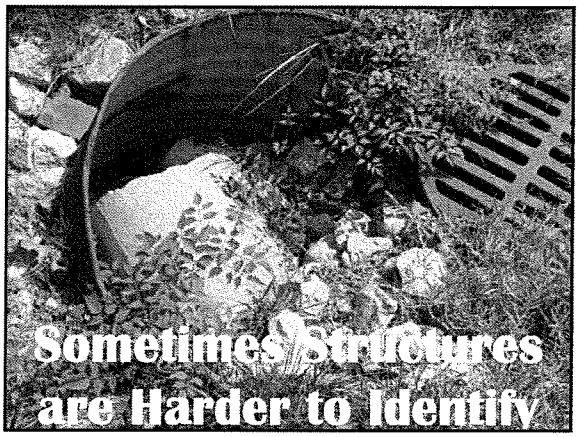

Sediment Blocked Catchbasin

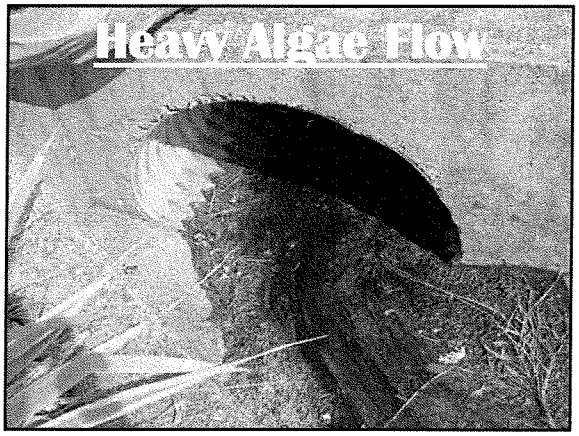

Well Kept Catchbasin

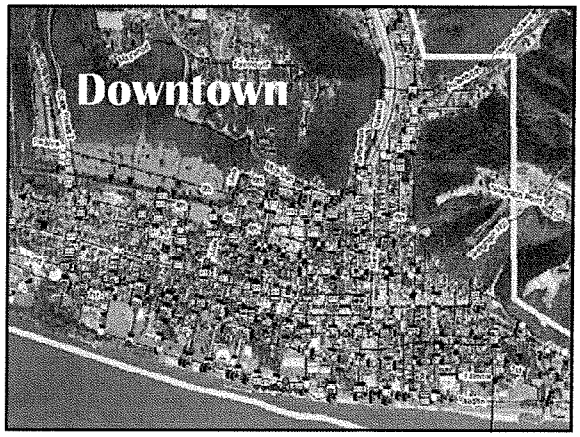

Unclean Catchbasin Can Lead to Overflow...

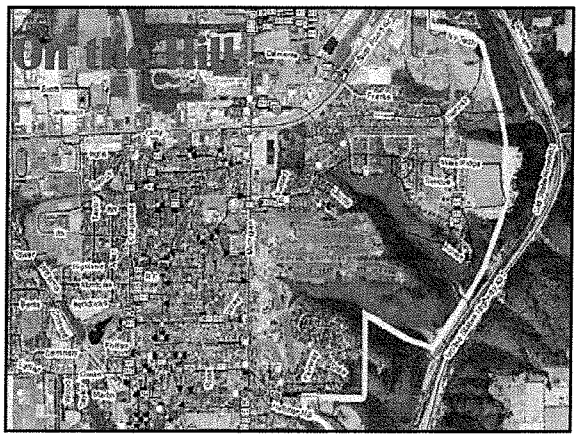

Plant life can cause problems with obstruction...









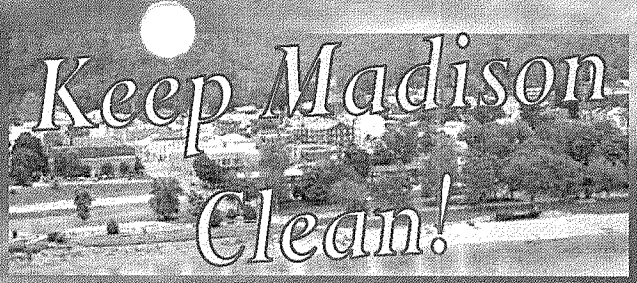


Benefits of Mapping

- Tracing sources of pollution
- Provide accurate data for city planning
- Improved response to emergencies
- Better coordination and communication between city departments

THANK YOU
For Your Attention!

Appendix 1.2
Mapping of Stormwater
System Presentation Slides



What is stormwater runoff?

Stormwater runoff occurs when precipitation from rain or melting snow flows over the ground. Impervious surfaces like driveways, sidewalks, rooftops, and streets prevent stormwater from naturally soaking into the ground.

A typical city block generates 9 times more runoff than a woodland area of the same size.

Why is stormwater runoff a problem?

Stormwater can pick up debris, chemicals, bacteria, dirt and other pollutants. Storm sewers discharge the water into nearby streams which flow into the Ohio River. Unlike sanitary sewer systems, stormwater is not treated before it is discharged. The good news is that we can all work together to reduce stormwater pollution by following a few simple suggestions inside.

For more information contact:

Mr. Jim Turner, City Engineer
City of Madison
101 W. Main Street
Madison, IN 47250
(812) 265-8312
www.madison-in.gov

Helpful website information:

Southeastern Indiana Solid Waste District
www.siswd.com

The Rivers Institute @ Hanover College
www.riversinstitute.org

Hoosier Riverwatch
www.in.gov/dnr/riverwatch/

Center for Watershed Protection
www.cwp.org

US Environmental Protection Agency
Stormwater Program Information
www.epa.gov/owow/nps/

Indiana Department of
Environmental Management (IDEM)
Stormwater Program Information
www.in.gov/idem/permits/water/
wastewater/wetwthr/storm

Published December, 2006
Adapted from EPA Publication 833-B-03-002

AFTER THE STORM

A Citizen's Guide to Understanding Stormwater Pollution

THE CITY OF MADISON, INDIANA
1809

Appendix 1.3
Educational Flyers – After the Storm

THE MADISON COURIER
Your news leader for southeastern Indiana and northern Kentucky
Serving Madison, Jefferson and Switzerland Co., IN and Trimble and Carroll Co.,
www.madisoncourier.

8/16/2006 3:00:00 PM

Interns map city storm sewer system

Donovan Estridge
Courier Staff Writer

Downtown Madison now has an electronic map of every storm sewer, manhole and drainage ditch that is in compliance with federal Environmental Protection agency standards.

The map was plotted by two summer interns who presented their findings Tuesday at the Madison City Council meeting.

City engineer Jim Turner enlisted the help of two students to produce an electronic map of the city's storm sewer run-off system. Turner hired Madison Consolidated High School student Luke Fisher and Hanover College senior Bibek Singh to plot out the storm sewer system.

The interns presented their findings to the City Council with slides of the types of storm drainage downtown.

"This keeps us in compliance to state and federal regulations," Turner said.

Turner hopes the map will be beneficial to the city to manage storm-water pollution by providing an accurate account of the sewage infrastructure throughout the city.

Originally the interns were hired to map the downtown area, but thanks to what Turner called diligence and hard work, they were able to plot out some areas on the hilltop.

What was most impressive was that the interns were able to provide a still photograph of every drainage structure downtown. Included with the photograph was the exact location and condition of the structure.

"We hope that in the long run these will help us overall in pollution management," Turner said. "The digital map gives us a lot to work with."

Another aspect that council members liked was that the interns came at a cheap price tag. Usually a city of Madison's size would use expensive engineers to document each structure. Turner said that using local help

Appendix 1.4
Newspaper Article

Enhancing Understanding of Stormwater Management: Mapping a Municipal System and Assessing Public Preferences

---

A Report to the City of Madison, Indiana

Prepared by the Rivers Institute at Hanover College

February 15, 2007

Authors:

Saurabh Niraula

Kiran Qureshi

Bibek Singh

Dennis Wichelns

This report describes a project conducted by the Rivers Institute for the City of Madison in the summer of 2006. The goals of the project were to create an electronic map of the City's stormwater management, assess public understanding of water quality issues involving stormwater, and gather preliminary information describing public preferences regarding alternative methods of raising revenue for improving the City's stormwater management system.

The authors of the report are, respectively: Student at Hanover College, Program Specialist with the Rivers Institute, Student at Hanover College, and Professor of Economics at Hanover College (Former Executive Director of the Rivers Institute). Bibek Singh and Luke Fisher (Madison Consolidated High School Student) conducted the mapping exercise described in the report. Saurabh Niraula and Kiran Qureshi conducted the survey of Madison residents.

---

agricultural levels, this component is important in any program designed to reduce pollution from nonpoint sources.

Public involvement and participation are particularly important in Madison, where the Ohio River is a highly valued resource appreciated by many residents and tourists. The riverfront area is the venue of several large festivals each year, and many residents enjoy daily walks along the River's shore. Public appreciation of the Ohio River should be helpful in gaining support for programs designed to reduce stormwater pollution and improve water quality. Citizen awareness and support will be helpful also in eliminating illicit discharges into the City's stormwater management system.

The Role of the Rivers Institute

In the summer of 2006, the City of Madison requested assistance from the Rivers Institute at Hanover College in implementing two of the six components of EPA's Phase II regulations. In particular, the Rivers Institute was asked to create an electronic map of the City's stormwater management system and to begin assessing public awareness regarding stormwater management issues. The Rivers Institute was pleased to assist the City, given the proximity of Hanover to Madison, and the opportunity for involving faculty members and student interns in this important work.

An electronic map of the City's stormwater management system was created using Geographic Information System (GIS) and Global Positioning Satellite (GPS) techniques. Two students, one from Hanover College and one from Madison Consolidated High School, spent much of the summer locating and mapping every element of the City's stormwater management system in the lower portion of downtown Madison. Those students, Bibek Singh and Luke Fisher, used the detailed location data they collected to create a digital, interactive map of the City's stormwater management system. After finishing their work in lower Madison, Bibek and Luke began collecting similar information for stormwater management facilities in the Hilltop area of Madison.

The effort to assess public awareness of stormwater pollution issues and engage residents in discussion of stormwater management was conducted in two phases. The first phase included several focus groups of Madison residents, in which we asked participants to provide guidance regarding the best way to engage the general public in discussion of stormwater pollution issues. The second phase involved an in-person survey of Madison residents to assess their awareness of stormwater pollution and collect information describing public preferences regarding alternative methods for raising revenue that might be needed to enhance stormwater management efforts in Madison. Prior to conducting the survey, we created an eight-minute video presentation that we used to provide background information regarding stormwater pollution to all survey participants. Draft versions of the video presentation and the survey instrument were presented and

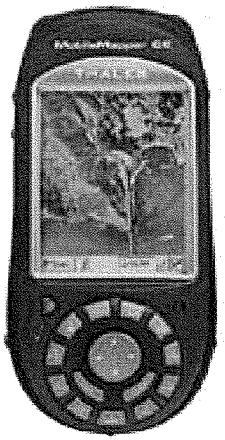


Figure 1. The Global Positioning Satellite (GPS) device used to determine location coordinates for physical features of the stormwater management system in Madison, Indiana

Figure 2. A portion of the electronic, interactive map of the stormwater management system in Madison, Indiana (created in August 2006 by Bibek Singh and Luke Fisher, with the Rivers Institute at Hanover College)

Literature Review

Economists have conducted many studies of public attitudes and support regarding environmental policies. Most of the studies using surveys to assess public preferences regarding stormwater pollution have examined changes in community behavior in response to water quality improvement programs. The surveys generally have involved a questionnaire with a simple question and answer format. Dietz *et al.* (2004) used two question-and-answer mail surveys to gather data describing homeowner management before and after an environmental education campaign designed to minimize nonpoint source pollution in Branford, Connecticut. Similarly, Howard *et al.* (2000) used random mail surveys to measure the success of various media in nutrient enrichment reduction programs within the Hawkesbury-Nepean Basin near Sydney, Australia. Other studies have also utilized question-and-answer methods in phone surveys to assess resident awareness and attitudes regarding stormwater pollution (e.g., Bartlett, 2005).

Several authors have used CM surveys to evaluate public willingness to pay and elicit public preferences regarding environmental amenities. Wichelns *et al.* (1993) and Opaluch *et al.* (1990) use preference data collected in a paired comparison CM survey to build an empirical model of public preferences regarding the selection of potential sites for solid waste landfills in Rhode Island. The model is used to score each potential site based on characteristics of the natural resources present at the site and those of the local community. The conceptual framework of the study is based on discrete choice models derived from consumer utility theory. The final aggregate utility function is based on the logit model (Opaluch *et al.* 1990, Wichelns *et al.* 1993). Estimated coefficients are used to rank each candidate site and predict the estimated proportion of the public that would favor each site over another in a referendum.

Hanley *et al.* (2005) also use the choice model method to estimate the value of improvements in selected components of ecological status to comply with the European Union's Water Framework Directive. Attributes examined in the study include in-stream ecology, aesthetics/appearance, and bank side conditions. Each attribute consisted of two possible levels of water quality that were perceived by the general population to be "fair" or "good." The improvements would be financed by increased water rates established at one of five levels (£ 2, £ 5, £ 11, £ 15, and £ 24). Each choice set consisted of three possible options, an option for zero-cost, zero-improvement as a "status quo," and two other options (Option A and Option B) that described programs with an increase in the level of at least one attribute. The authors collected 210 in-house surveys for each river. Multinomial logit estimates showed the effects of all three attributes to be positive and significant at the 1% level. Price, as expected, had a negative sign, but was not statistically significant.

We did not locate existing literature in which authors have utilized nonmarket evaluation methods to assess public support for policy options that

when the first order linear approximation is substituted into the basic logit model (Opaluch *et al.* 1993). Coefficients for β_C and β_Y are estimated using the maximum likelihood estimation technique, after which scores can be generated as

$$\text{Score}_A = \beta_C C_A - \beta_Y F_A \tag{4}$$

where C_A represents the characteristics (differences in the amount of reductions in road paving or parks budget) and F_A represents differences in fees. Hence, support for any policy option based on its attributes would be

$$P_A = \frac{1}{1 + \exp[-(Score_A - Score_B)}. \tag{5}$$

Support for a policy from the pool of different policy options could then be predicted by using

$$P'_A = \frac{\exp(Score_A)}{\sum_{i \in \Omega} \exp[Score_i]} \tag{6}$$

where Ω represents the entire set of policies (Opaluch *et al.* 1993).

Potential Usefulness of This Approach in Madison

The choice modeling approach ensures reliable estimation of the public's perceived value of improvements in water quality by reducing stormwater pollution. Furthermore, choice modeling has several advantages over both the revealed preference method and CVM. The revealed preference method ignores measures of utility and indifference, factors that are taken into account in choice modeling.

Potential biases of respondents also must be considered when using the contingent valuation method. CVM seeks to determine the maximum amount a respondent is willing to pay, and by doing so, has several shortcomings. These include strategic behavior, protest answers, response bias and the possibiltiy that respondents will ignore income constraints (Diamond and Hausman, 1994). CVM also has been criticized for generating inaccurate estimates of true willingness to pay (Mogas *et al.* 2006).

Another advantage of choice modeling is its resemblance to the normal framework in which respondents frequently evaluate tradeoffs involving different levels of attributes of goods and services. The CM method also produces more

Table 1. Policy options illustrating programs and payment methods appearing in the choice model survey instrument

Program	Utilities Fee	Parks and Fee		Roads and Fee	
		Parks	Fee	Road	Fee
Basic Program	$ 0.27	2.50%	-	17.00%	-
Better Program	$ 1.25	0.10%	$ 1.24	0.50%	$ 1.25
Best Program	$ 3.11	10.50%	$ 2.00	22.50%	$ 2.75

Data Collection

Data collection was conducted from August 8 through November 4, 2006. We conducted the survey at the Madison Public Library, the Madison waterfront gazebo, Madison Visitor's Information Center, Kroger, Madison Senior Citizen's Center, Madison Tea and Coffee, Key Manufacturing Industries, Hanover College, and the Calvary Baptist Church. Each respondent viewed the eight-minute video describing stormwater pollution before completing a survey booklet. The video provided information on the history and importance of the Ohio River to the City of Madison and it described the basic features of stormwater pollution. More importantly, the video served also as an educational tool to increase public awareness and basic knowledge regarding nonpoint source pollution.

We used 6 versions of the booklet, and each booklet contained 6 paired comparisons involving a level of water quality improvement and a payment mechanism. We obtained completed booklets from 120 survey participants. Twenty copies of each of the 6 versions were completed. Hence, we obtained a total of 720 observations of choices made by survey participants (6 x 6 x 20). Each of the 120 survey participants provided six observations of choices in the booklet that he or she completed. Madison residents accounted for almost 80% of our observations. Remaining observations were collected from residents of other towns and rural areas within Jefferson County.

The sample of Madison residents who participated in the survey represented the demographic makeup of the City of Madison (Table 2). We also obtained a good distribution of respondents across the spectrum of household income and educational achievements. The distributions across income groups and educational levels are fairly uniform (Table 3).

Table 3. Household income, education, and residential location of participants in our survey of Madison residents in the summer of 2006

Demographic Characteristics	Proportion of Survey Respondents
Household Income	
Less than 30,000	20.8
30,000 to 50,000	25.8
50,000 to 70,000	28.3
70,000 to 90,000	6.7
More than 90,000	18.3
Place of Residence	
Madison Hilltop	50.0
Madison Downtown	29.2
Other	20.8
Education	
Some High School	7.5
High School Diploma	29.2
Associates Degree	8.3
College Degree	24.2
Higher Level Degree	30.8

Option A over Option B decreases. The 95% confidence interval for the differences in parks ranges from 0.885 to 0.945. Similarly, the 95% confidence interval for the differences in roads ranges from 0.956 to 0.981. Based on these results, we are confident that the value of Exp (B) for both variables in the population lies somewhere between the two values in their respective ranges (Field, 2005). The Exp (B) is greater than one for the difference in fees, which, conversely, indicates that the likelihood of choosing Option A decreases. The 95% confidence interval for difference in fees ranges from 1.178 to 1.439, suggesting that the value of the Exp (B) in the population lies somewhere between these two values.

Table 6. Estimated levels of support for policy options

	Payment Method			
	Fee	**Parks**	**Roads**	**Total Support, by Program**
Basic Program	17.4%	14.9%	10.8%	43.1%
Better Program	13.4%	13.3%	13.2%	39.9%
Best Program	8.2%	4.3%	4.4%	16.9%
Total Support, by Payment Method	39.0%	32.6%	28.4%	100.0%

Our analysis indicates a fairly uniform distribution of public support for alternative programs (Table 6). We do not observe any unanimous or particularly strong preference for any one of the policy alternatives. Of the nine policy options, the basic program funded by a utilities fee receives the greatest support (17.4%). Each of the three better program policy options receives support from about 13% of survey participants. The best program received the least support among participants, ranging from about 4% to 8%, as a function of the payment mechanism.

Policy options involving the basic program had the greatest support (43.1%) of the three programs (Table 6). The better program was second with 39.9% and the best program received the least support, with 16.9% support. Both the basic program and the better program had at least twice the support as that for the best program.

Of the three payment mechanisms, policy options involving a stormwater utilities fee had the greatest support (39.0%). This was followed by policy options involving reductions in the parks budget, which were supported by 32.6% of

References

Alpizar, F., Carlsson, F., and Martinsson, 2001. *Using Choice Experiments for Non-Market Valuation.*

Bartlett, C., 2005. *Stormwater Knowledge, Attitude and Behaviours: A 2005 Survey of North Carolina Residents.*

Bennett, Jeff, 2002. *Non-market Valuation Scoping Study. A report prepared for the Murray Darling Basin Commission.* September.

Chilton, S.M. & Hutchinson, W.G., 1999. Do Focus groups contribute anything to the contingent valuation process? *Journal of Economic Psychology* 20: 465-483.

Dietz, M., J. C. Clausen, K. K. Filchak, 2004. Education and Changes in Residential Nonpoint Source Pollution. *Environmental Management* 34: 684-690.

Field, Andy, 2005. *Discovering Statistics Using SPSS.* SAGE Publications. 2nd. Edition. London, California, New York.

Hanley, N., Wright, R., Alvarez-Rarizo, B., 2005. Estimating the economic value of improvements in river ecology using choice experiments: an application to the water framework directive. *Journal of Environmental Management* 78:183-193.

Howard, J. and McGregor, D., 2000. Reducing nutrient enrichment of waterways through public education: a tale of two cities. *Environmental Conservation* 4:351-358.

Ian J. Bateman *et al.*, 2002. *Economic Valuation with Stated Preference Techniques*. Edward Elgar Publishing Limited, United Kingdom.

Mogas, J., Riera, P., and Bennett, J., 2006. A comparison of contingent valuation and choice modelling with second-order interactions. *Journal of Forest Economics* 12:5-30.

Opaluch, J. J., S.K. Swallow, T. Weaver, C.W.Wessells, D. Wichelns, 1993. Evaluating Impacts from Noxious Facilities: Including Public Preferences in Current Siting Mechanisms. *Journal of Environmental Economics and Management* 24:41-59.

Appendix 1.5
Educational Poster

40 Percent:

Amount of U.S. rivers and streams that are too polluted for fishing or swimming.

In 1972, Congress called for great improvements in water quality by passing the Clean Water Act. Since then, dozens of large metropolitan centers across the country have faced unfunded mandates to address stormwater quality within their jurisdictions. Now thousands of smaller communities like Madison, are exploring measures to help improve its stormwater quality, thereby preventing pollution from reaching its streams. You can do your part, too.

Pick up Your Trash!

Anything that enters a storm drain is discharged into the waterbodies we use for swimming, fishing and providing drinking water.

By practicing healthy household habits, homeowners can keep common pollutants like pesticides, pet waste, grass clippings and automotive fluids off the ground and out of stormwater.

THE CITY OF MADISON, INDIANA 1809

KEEP MADISON CLEAN!

Appendix 2.1
Public Presentation
June 20, 2006

City of Madison - Storm Water Quality Management Plan

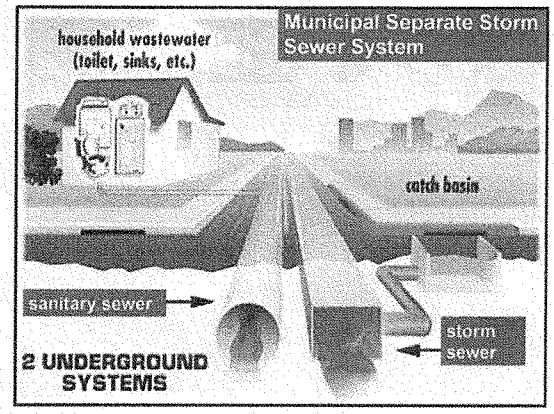
June 20, 2006

NPDES Phase II / Rule 13

- National Pollutant Discharge Elimination System (NPDES)
- Federal mandate that addresses storm water pollution (U.S. EPA)
- Local governments (cities and counties) required to obtain permit for public storm sewer systems (MS4)
- Managed by Indiana DEM (IAC Title 327, Article 15, Rule 13)

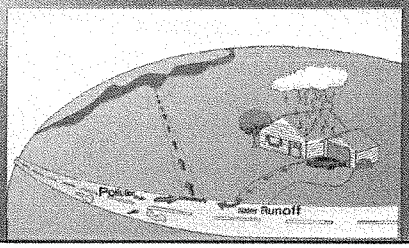
NPDES Background

- permitting component of Clean Water Act
- 1972, wastewater treatment plants and industrial process wastewater (point sources)
- 1990, storm water runoff from large cities, certain industries, large construction sites (Phase I)
- 1999, storm water runoff from smaller cities, small construction sites (Phase II)



What's the problem?

- Urban storm water runoff identified by EPA as "major source of water quality impairment"
- Typical pollutants: motor oil, litter, household chemicals, construction site runoff, etc.



Municipal Storm Water Quality Programs in Indiana

- Phase I (large cities)
  - Indianapolis
- Phase II (over 160 listed communities)
  - Located in an "urbanized area"
  - Population > 10,000 (Madison, Bedford, Greensburg, Jasper, Seymour, etc.)
  - Population > 7,000 combined with high-growth and other factors

4. Construction Site Runoff Control

- Develop and adopt Construction Site Runoff Ordinance
- Track comments received from the public

5. Post-Construction Storm Water Management

- Develop and adopt a Post-Construction Runoff Ordinance

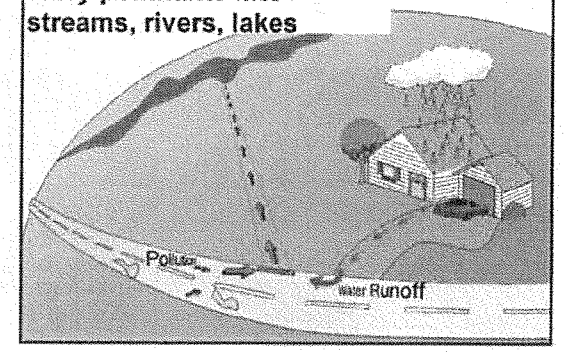
6. Pollution Prevention / Good Housekeeping

- Street Sweeping Program
- Sidewalk and Parking Lot Cleaning
- Public green space maintenance (parks, golf course, street medians)
- Storm Sewer System Cleaning
- Structural BMP (best management practice) program (retention ponds, other controls)
- Municipal Litter Pick-up Program
- Various Street Department BMP's (covered salt storage, spill containment measures, vehicle washing, etc.)

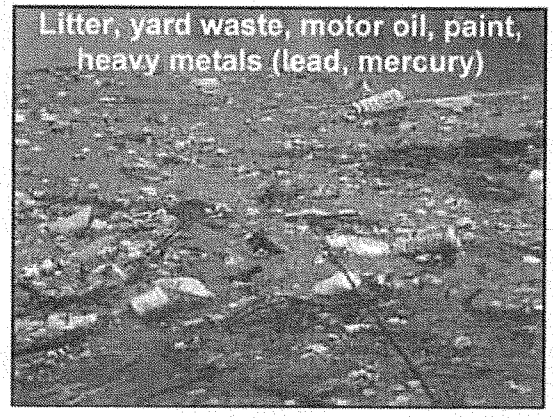
Appendix 2.2
Children's Educational Presentation "How does storm water get polluted?"

How does storm water get polluted?

Storm water runoff can carry pollutants into streams, rivers, lakes

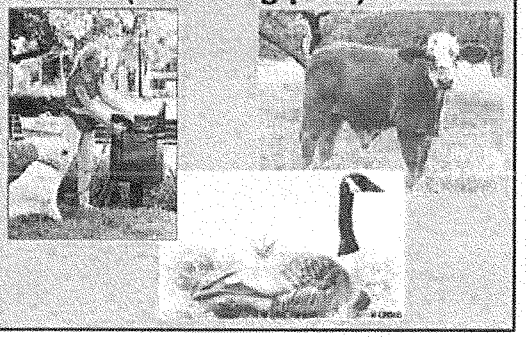


Litter, yard waste, motor oil, paint, heavy metals (lead, mercury)

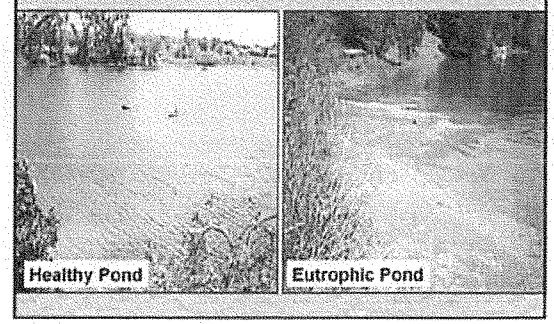


Fertilizers, pesticides, and herbicides

Animal waste (including pets)



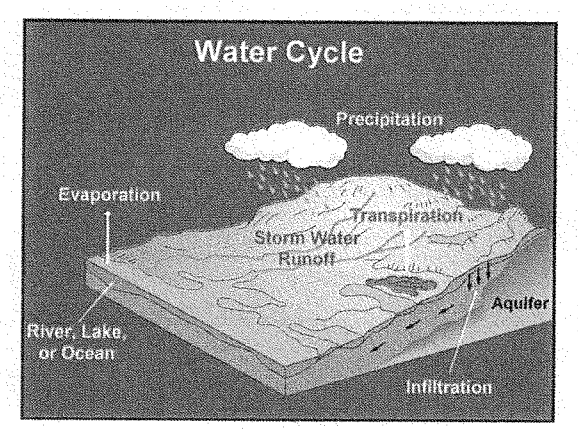
Eutrophication – algae grow too fast due to the inflow of nutrients



Appendix 2.3
Children's Educational Presentation "Storm Water Pollution"

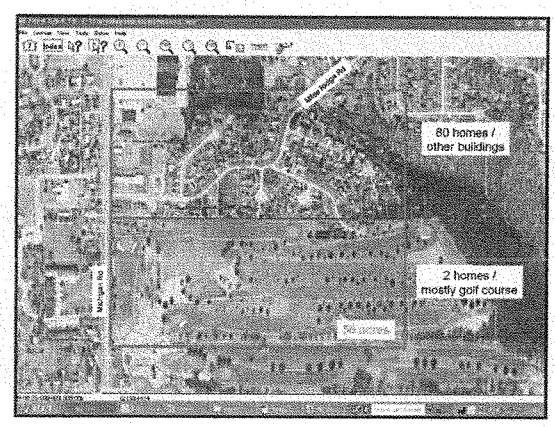
Storm Water Pollution

Storm Water Runoff

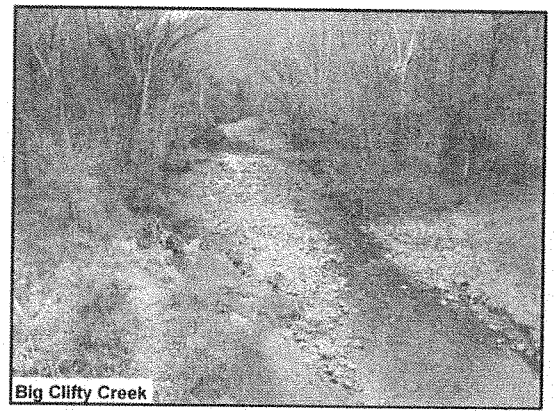


Factors that affect storm water runoff

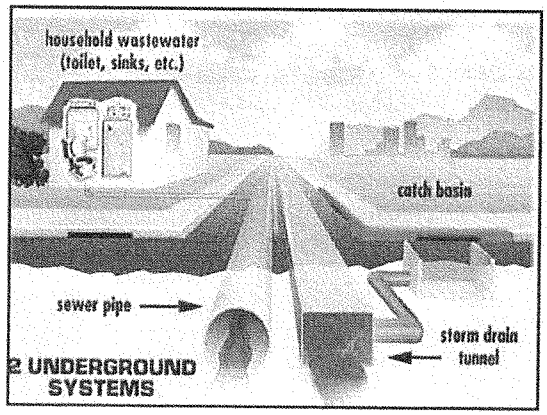
- Rainfall rate
- Type of ground cover (rooftop and parking lot vs. meadows and woods)
- Soil type
- Land slope

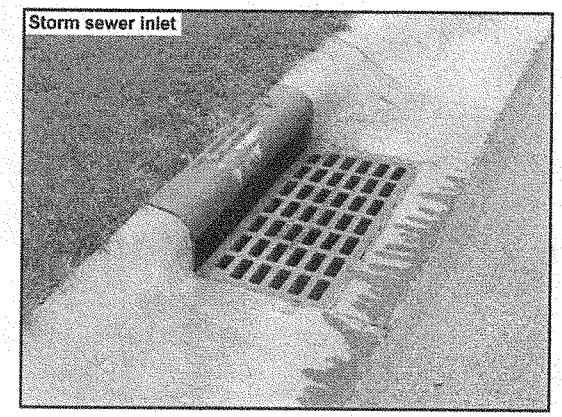


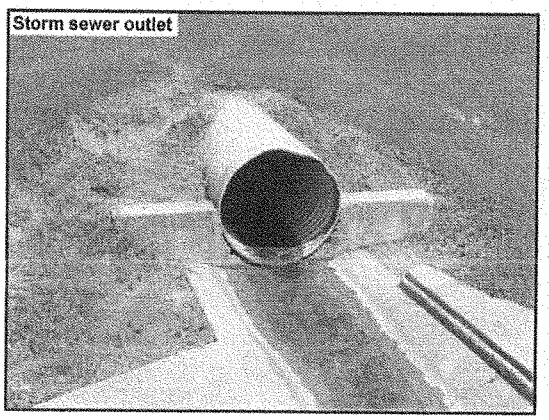
What's a watershed?

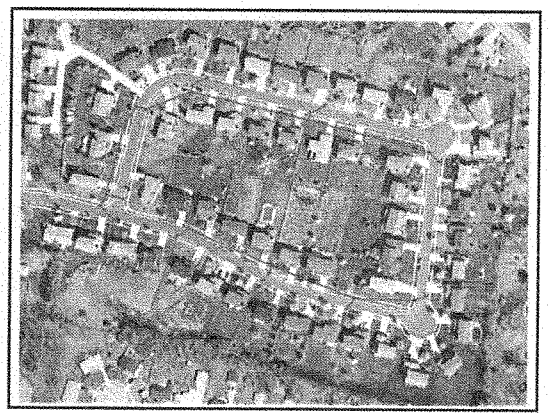

Big Clifty Creek

What's a storm sewer?




Storm sewer inlet


Storm sewer outlet



Appendix 3.1
Summary of Permit Year 03
MS4 System Mapping

Summary of Permit Year 03 MS4 System Mapping

Stormwater Features (Points)	Number of Features Collected
Catchbasins	422
Inlets	236
Manholes	14
Outlets	166
Outfalls	74

Stormwater Features (Lines)	Total mapped Miles	Feet
Channels	.68	3,590
Ditches	23.82	125,770
Pipes	7.69	40,603
Total	**32.19**	**169,963**

Appendix 3.2
Storm Sewer Map

Appendix 3.3
Ordinance No. 2006-20

1st 10-17-06
2nd 11-06-06
3rd 11-21-06

ORDINANCE NO. 2006-20
AN ORDINANCE OF THE COMMON COUNCIL OF THE CITY OF MADISON, INDIANA REGARDING STORMWATER REGULATIONS

WHEREAS, the Indiana Department of Environmental Management has mandated communities throughout the State of Indiana adopt certain stormwater regulations; and

WHEREAS, it will be beneficial to the health, safety and general welfare of the City of Madison, that it regulate illicit discharges and construction site runoffs of stormwater; and

WHEREAS, it is in the best interest of the City of Madison, Indiana; that stormwater regulations be adopted by adding Chapter 54, Stormwater Regulations, to the Code of Ordinances of the City of Madison, Indiana.

NOW, THEREFORE, BE IT RESOLVED THAT THE MADISON CITY CODE BE AMENDED BY ADDING CHAPTER 54, STORMWATER REGULATIONS AS FOLLOWS:

SECTION 1. GENERAL PROVISIONS

§ 54.01 PURPOSE.

The purpose of this chapter is to provide for the health, safety, and general welfare of the citizens of the City of Madison through the regulation of illicit discharges and construction site runoff. This chapter establishes methods for controlling the introduction of pollutants into the City's municipal separate storm sewer system (MS4) associated with illicit discharges. This chapter will also promote the public welfare by guiding, regulating and controlling the design, construction, use and maintenance of any development or other activity that disturbs or breaks the topsoil or results in the movement of earth on land in the city.

§ 54.02 AUTHORITY.

This chapter is adopted under the authority granted by I.C. 36-1-4-11, 36-7-4, 8-1.5-5 and all acts supplemental and amendatory thereto. This authority provides for the administration, enforcement, and amendment of this chapter.

§ 54.03 APPLICABILITY.

This chapter shall apply to all land and any portion of the MS4 located within the corporation limits of the City of Madison.

§ 54.04 RESPONSIBILITY FOR ADMINISTRATION.

The City shall administer, implement, and enforce the provisions of this chapter. Any powers granted or duties imposed upon the City may be delegated to persons or entities acting in the beneficial interest of or in the employ of the City.

§ 54.05 DEFINITIONS.

For the purpose of this chapter, the following definitions shall apply unless the context clearly indicates or requires a different meaning.

§ 54.06 DISCHARGE PROHIBITIONS.

(A) *Prohibition of illicit discharges.* No person shall discharge or cause to be discharged into the City's MS4 any materials other than stormwater.

(B) *Exceptions.* The following discharges are exempt from the prohibitions of this chapter:

(1) Water line flushing or flushing of other potable water sources, landscape irrigation or lawn watering, diverted stream flows, rising ground water, ground water infiltration to storm drains, uncontaminated pumped ground water, foundation or footing drains (including active groundwater dewatering systems), air conditioning condensation, springs, non-commercial washing of vehicles, natural riparian habitat or wet-land flows, swimming pools (if de-chlorinated to less than 1.0 mg/l chlorine), fire fighting activities, and any other water source not containing pollutants;

(2) Discharges specified in writing by the City as being necessary to protect public health and safety;

(3) Dye testing, but this requires a verbal notification to the City prior to the time of the test;

(4) Any non-stormwater discharge that is permitted under an NPDES permit, waiver, or waste discharge order issued to the discharger and administered under the authority of IDEM, provided that the discharger is in full compliance with all requirements of the permit, waiver, or order and other applicable laws and regulations, and provided that written approval has been granted for any discharge to the storm drain system.

(C) *Immediate suspension of access in emergency situations.* The City may, without prior notice, suspend MS4 discharge access to a person when such suspension is necessary to stop an actual or threatened illicit discharge which presents or may present imminent and substantial danger to the environment, or to the health or welfare of persons or to the MS4 or Waters of the United States.

(D) *Suspension order due to the detection of illicit discharge.* The City will issue a written suspension order to any person that is found to be responsible for an active or potential illicit discharge. If the violator fails to comply with such a suspension order in a reasonable period of time, the City may take such steps as deemed necessary to prevent or minimize damage to the MS4 or Waters of the United States, or to minimize danger to persons. Any person responsible for an illicit discharge or connection may have their MS4 access terminated. The violator may petition the Board for a reconsideration and hearing.

(E) *Reinstatement offense.* A person commits an offense if the person reinstates MS4 access to premises terminated pursuant to this section, without the prior approval of the City.

§ 54.07 MONITORING.

(A) The City shall be permitted to enter and inspect premises as often as may be necessary to determine compliance with the illicit discharge conditions of this chapter. If a discharger has security measures in force which require proper identification and clearance before entry into its premises, the discharger shall make the necessary arrangements to allow access to representatives of the City.

(B) Facility operators shall allow the City ready access to all parts of the premises for the purposes of inspection, sampling, examination and copying of records that must be kept under the conditions of an NPDES permit, and the performance of any additional duties as defined by state and federal law.

(C) The City shall have the right to set up any devices on any premises as necessary, in the opinion of the City, to conduct monitoring and/or sampling of the premises' stormwater discharge.

(D) The City has the right to require a discharger to install monitoring equipment as necessary. In such cases, the facility's sampling and monitoring equipment shall be installed and maintained by the discharger at its own expense. The discharger shall maintain the monitoring equipment at all times in a safe and proper operating condition. All devices used to measure stormwater flow and quality shall be calibrated to ensure their accuracy.

(E) Any temporary or permanent obstruction which prevents the safe and easy access to a facility shall be promptly removed by the facility's operator at the written or oral request of the City. The costs of clearing such access shall be borne by the facility's operator.

(F) Unreasonable delays in allowing the City access to a permitted facility are a violation of this chapter. A person who is the operator of a such a facility commits an offense if the person denies the City reasonable access to the premises for the purpose of conducting any activity authorized or required by this section.

(G) If the City has been refused access to any part of the

(6) The performance of monitoring, analysis, and reporting;

(B) *Abatement.* If abatement of a violation and/or restoration of affected property is required, the notice shall set forth a deadline within which such remediation or restoration must be completed. Said notice shall further advise that, should the violator fail to remediate or restore within the established deadline, the work will be done by a designated governmental agency or a contractor and the expense thereof shall be charged to the violator.

§ 54.12 APPEALS.

(A) Any person receiving a written notice of violation may appeal the determination to the Board. The notice of appeal must be received within ten (15) business days from the date of the notice of violation. Hearing on the appeal shall take place within fifteen (15) business days from the date of receipt of the notice of appeal. The decision of the Board or its designee shall be final.

(B) If the violation has not been corrected pursuant to the requirements set forth in the notice of violation, or, in the event of an appeal, within ten (10) days of the decision of the Board upholding the decision of the City, then representatives of the City shall enter upon the subject private property and are authorized to take any and all measures necessary to abate the violation and/or restore the property. It shall be unlawful for any person, owner, agent or person in possession of any premises to refuse to allow the government agency or designated contractor to enter upon the premises for the purposes set forth above.

§ 54.13 INJUNCTIVE RELIEF.

It shall be unlawful for any person to violate any provision or fail to comply with any of the requirements of this chapter. If a person has violated or continues to violate the provisions of this chapter, the City may petition for a preliminary or permanent injunction restraining the person from activities which would create further violations or compelling the person to perform abatement or remediation of the violation.

§ 54.14 COMPENSATORY ACTION.

In lieu of enforcement proceedings, penalties, and remedies authorized by this chapter, the City may impose upon the violator alternative compensatory actions, such as storm drain stenciling, attendance at compliance workshops, creek cleanup, or such other activities selected by the City.

§ 54.15 VIOLATIONS DEEMED A PUBLIC NUISANCE.

In addition to the enforcement processes and penalties provided, any condition caused or permitted to exist in violation of any of the provisions of this chapter is a threat to public health, safety and welfare, and is declared and deemed a nuisance, and may be summarily abated or restored at the violator's expense, and/or a civil action to abate, enjoin, or otherwise compel the cessation of such nuisance may be taken.

§ 54.16 JUDICIAL ENFORCEMENT REMEDIES.

(A) *Injunctive Relief.* When the City finds that a person has violated, or continues to violate, any provision of this chapter, an NPDES permit, or order issued hereunder, or any other standard or requirement, the City may petition through any court of general jurisdiction within Jefferson County, for the issuance of a temporary or permanent injunction. The City may also seek such other action as is appropriate for legal and/or equitable relief, including a requirement for the person to conduct environmental remediation. A petition for injunctive relief shall not be a bar against, or a prerequisite for, taking any other action against a person.

(B) *Civil Penalties.* In addition to the administrative fines available herein, a person who has violated, or continues to violate, any provision of this chapter, or order issued hereunder, or any other standard or requirement shall also be liable to the City for a maximum civil penalty of $2,500 per violation, per day. Penalties shall accrue for each day during the period of the violation.

(C) The City may recover reasonable attorney's fees, court costs, and other expenses associated with enforcement activities, including sampling and monitoring expenses, and the cost of any actual damages incurred by the City.

(D) In determining the amount of civil liability, the court shall take into account all relevant circumstances, including, but not limited to, the extent of harm caused by the violation, the magnitude and duration of the violation, any economic benefit gained through the person's violation, corrective actions by the person, the compliance history of the person, and any other factor as justice requires.

(E) Filing a suit for civil penalties shall not be a bar against, or a prerequisite for, taking any other action against a person.

Appendix 3.4
IDEM Correspondence
dated December 19, 2006

City of Madison

WATER AND SEWAGE DEPARTMENT

Indiana's Oldest Water Company

101 W. MAIN STREET
MADISON, INDIANA 47250-3775
(812) 265-8312
FAX (812) 273-0575
madutil@madison-in.gov

December 19, 2006

Christina Lowry
Office of Water Quality
Indiana Department of Environmental Management
100 North Senate Avenue
P.O. Box 6015
Indianapolis, IN 46206-6015

Re: City of Madison Rule 13 Program
Permit Number INR040061

Dear Ms. Lowry:

In response to the letter from James Robb dated December 13, 2006, enclosed with this letter are completed State Forms 51271 and 51272. These forms certify that the City of Madison has complied with the illicit discharge and construction site runoff minimum control measures of the Rule 13 regulations. I have also included a copy of our recently-adopted City Ordinance 2002-20 that addresses these two MCM's. Illicit discharges are covered in sections 54.06 and 54.07, while construction site runoff is addressed in sections 54.08 through 54.10 of the ordinance.

We have not included a completed State Form 51274 or adopted a post-construction runoff ordinance at this time. As stated in previous correspondence, we had planned to wait until the Indiana Stormwater Quality Manual was published. That has not happened yet, but I recognize that it does not relieve Madison of its obligation to address the post-construction MCM.

Therefore, our current plan is to develop a post-construction ordinance and begin the adoption process in January 2007. As we are required to hold three readings of ordinances, its adoption date would likely follow in either February or March 2007. Upon adoption of this ordinance, we will submit a completed State Form 51274 to you.

Lastly, could you please update your records so that I am identified as the MS4 Operator City of Madison. The December 13 letter was addressed to Jim Storm, and I have assumed all of his Rule 13 program responsibilities at the City.

Please let me know if you have any questions regarding this letter or Madison's Rule 13 program. I can be reached via e-mail at utilitymanager@madison-in.gov or phone at (812) 265-8326.

Sincerely,

Jim Turner, P.E.
Utilities Manager / City Engineer

enclosures
cc: Honorable Albert Huntington, Mayor
File

RULE 13 –
Certification of the Development, Implementation, Management, and Enforcement of an Erosion and Sediment Control Program for the Construction Site Storm Water Run-Off Control MCM

State Form 51272 (R2 / 11-03)
INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

For questions regarding this form, contact:
IDEM – Rule 13 Coordinator
100 North Senate Avenue, Rm 1255
P.O. Box 6015
Indianapolis, IN 46206-6015
Phone: (317) 234-1601 or
(800) 451-6027, ext. 41601 (within Indiana)
Web Access:
http://www.in.gov/idem/water/npdes/permits/welwthr/storm/rule13.html

NOTE:

- This form must be used to comply with section 15(b) of 327 IAC 15-13.
- The program required under this MCM must be implemented within three hundred sixty-five (365) days of the Notice of Intent (NOI) letter submittal date.
- Submit this completed form when the program has been developed and implemented.
- Return this completed and signed form, and any required addenda by mail to the IDEM Rule 13 Coordinator at the address listed in the box on the upper-right.

CERTIFICATION AND SIGNATURE

The State of Indiana requires James Turner (MS4 Operator) to develop, implement, manage, and enforce an erosion and sediment control program for construction activities that disturb one (1) or more acres of land within the regulated MS4 area. As part of this program, an ordinance or other regulatory mechanism must be created or modified, and be substantially similar to IDEM's construction storm water program (327 IAC 15-5). This program and associated legal authorities must be obtained and implemented within three hundred sixty-five (365) days of the Notice of Intent (NOI) letter submittal date.

► The following statement, required by the State of Indiana, and the accompanying signature serve as the required certification that the program has been developed and implemented per the requirements of 327 IAC 15-13 and authorized under NPDES permit number INR040 061.

"I certify, under penalty of law, that this program and all required documents and materials were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the above statement is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Authorized Signature[1]: James Turner **Date:** 12/19/06
(mm/dd/year)

Title[2]: Utilities Manager / City Engineer
(typed or printed)

[1]The "authorized signature" required above must be either that of the MS4 operator, or, if another entity is responsible for this MCM, the responsible individual.
[2]The "title" must either be "MS4 operator", or, if a responsible individual signs, the title of that individual and associated MS4 entity represented (for example, mayor of the City of Indianapolis).

Appendix 3.5
Illicit Discharge Warning Letters

City of Madison

WATER AND SEWAGE DEPARTMENT

Indiana's Oldest Water Company

101 W. MAIN STREET
MADISON, INDIANA 47250-3775
(812) 265-8312
FAX (812) 273-0575
madutil@madison-in.gov

May 19, 2006

Wilma Jo Simmons
312 East Fifth St
Madison, IN 47250

Re: Sanitary Sewer Discharge

Dear Mrs. Simmons:

Attached to this letter is a copy of the minutes from the May 1 Board of Public Works and Safety meeting where a sewer issue at 410 East Fifth Street was discussed. That property is owned by Janet Wolf. I am providing you with the minutes because there is a similar situation with your sewer service at 312 East Fifth Street. As you will recall from a previous letter, the sanitary sewer lateral from your property is currently tapped into a storm sewer pipe. This results in the discharge of sewage to Crooked Creek.

At this meeting, Dick Wolf (the son of Janet Wolf) proposed that the City pay for the excavation, backfill, and paving associated with the required sewer lateral reconstruction. Rob Barlow, a Board member, also discussed the possibility of a rebate in sewer bills for the previous 7-year period. Following a discussion among all Board members, neither option was approved as a standard policy. Instead, the Board has allowed for affected property owners to file a claim if they feel entitled to a reimbursement for such work. Each claim would be considered on a case-by-case basis.

Therefore, please move forward with obtaining estimates and scheduling the necessary repairs to your sanitary service lateral. If you plan to file a claim for reimbursement, please provide me with a copy of the estimate before beginning any work so that I can review it with the Board. Given the potential health safety issues, please obtain your estimates as soon as possible. The work itself should be completed within 90 days of the date of this letter.

If you need any assistance in locating a main, please contact Billy Applegate at 493-9514. I can be reached at 265-8326. The City appreciates your cooperation.

Sincerely,

Jim Turner, P.E.
Public Works and Utilities Director

attachment
cc: Honorable Albert Huntington, Mayor
Ralph Armand, Jefferson County Health Department
File

City of Madison

WATER AND SEWAGE DEPARTMENT

Indiana's Oldest Water Company

101 W. MAIN STREET
MADISON, INDIANA 47250-3775
(812) 265-8312
FAX (812) 273-0575
madutil@madison-in.gov

May 19, 2006

Janet Wolf
2102 Wilson Ave
Madison, IN 47250

Re: Sanitary Sewer Discharge

Dear Mrs. Wolf:

Attached to this letter is a copy of the minutes from the May 1 Board of Public Works and Safety meeting where the sewer issue at 410 East Fifth Street was discussed. As you will recall from a previous letter, the sanitary sewer lateral from this property is currently tapped into a storm sewer pipe. This results in the discharge of sewage to Crooked Creek.

At this meeting, your son proposed that the City pay for the excavation, backfill, and paving associated with the required sewer lateral reconstruction. Rob Barlow, a Board member, also discussed the possibility of a rebate in sewer bills for the previous 7-year period. Following a discussion among all Board members, neither option was approved as a standard policy. Instead, the Board has allowed for affected property owners to file a claim if they feel entitled to a reimbursement for such work. Each claim would be considered on a case-by-case basis.

Therefore, please move forward with obtaining estimates and scheduling the necessary repairs to your sanitary service lateral. If you plan to file a claim for reimbursement, please provide me with a copy of the estimate before beginning any work so that I can review it with the Board. Given the potential health safety issues, please obtain your estimates as soon as possible. The work itself should be completed within 90 days of the date of this letter. Given the fact that a similar problem will need to be addressed at 407 East Fifth Street, you may want to contact that property owner (Warren McKay) and use the same contractor to repair both laterals.

If you need any assistance in locating a main, please contact Billy Applegate at 493-9514. I can be reached at 265-8326. The City appreciates your cooperation.

Sincerely,

Jim Turner, P.E.
Public Works and Utilities Director

attachment
cc: Honorable Albert Huntington, Mayor
Ralph Armand, Jefferson County Health Department
File

Appendix 3.6
Sanitary Sewer Lateral
Letters

City of Madison

WATER AND SEWAGE DEPARTMENT

Indiana's Oldest Water Company

101 W. MAIN STREET
MADISON, INDIANA 47250-3775
(812) 265-8312
FAX (812) 273-0575
madutil@madison-in.gov

June 21, 2006

Jeff Wang
Empress of China
425 Clifty Drive
Madison, IN 47250

Re: Sanitary Sewer Lateral

Dear Mr. Wang:

Earlier this week, I was informed that the sanitary sewer lateral serving your restaurant at 425 Clifty Drive broke at a fitting. The problem spot features a flexible "fernco"-type fitting on an exposed portion of the pipe. The City was first notified of this problem the evening of Friday, June 16. It is my understanding that you were contacted that evening about the problem and had the fitting re-secured to the pipe the following day. Per City Ordinance 51.049 (attached), all property owners are responsible for the maintenance of their sewer laterals.

Before the repair was made, untreated sewage from the restaurant was allowed to flow into the adjacent creek. It is also my understanding that this same problem has occurred at least one other time within the past two years.

The discharge of untreated sewage into a creek is a serious environmental problem, both for the City and you as the property owner. The basic problem appears to be the improper use of a fernco fitting on the lateral pipe. Therefore, I am requesting that you have the lateral re-constructed to eliminate the use of this fernco fitting. The lateral should be completely hard-piped along its exposed section to reduce the risk of future failure. That work should be completed within 60 days of the date of this letter.

If the lateral is not repaired within that time frame, the City will be forced to take action to deal with this problem.

We appreciate your cooperation on this matter. If you have any questions on this letter, please contact either myself at 265-8326 or Billy Applegate, Madison's Collection System Superintendent, at 493-9514.

Sincerely,

Jim Turner, P.E.
Utilities Manager / City Engineer

attachment
cc: Honorable Albert Huntington, Mayor
Ralph Armand, Jefferson County Health Department
File

Appendix 3.7
City Staff Training Roster

Madison Rule 13 Program		
City Staff Training		
1/10/2007 2:00 p.m.		
Name	**Department**	**Initials**
Steve Horton	Fire	S.P.H.
Keith Leatherman	Parks	KL
Dave Hawkins	WWTP	DWH
Greg Smithers	Sewer - Collection System	GS
Ron Geyman	Water	RG
Mark Warner	Streets	MW

Appendix 3.8
NPDES Phase II - City Staff
Training Presentation
Slides

NPDES Phase II

Madison's Storm Water Quality Management Plan

IDEM Rule 13

City Staff Training - 1/10/07

Background

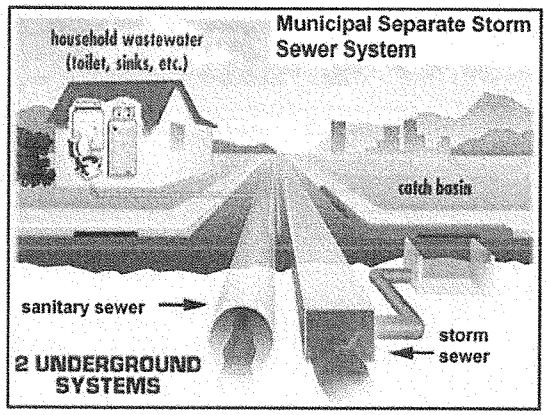
- City of Madison holds a permit from IDEM to "operate" the public storm sewer system (catchbasins, pipes, ditches, streams)
- Permit requires City to minimize storm water pollution
- Urban storm water runoff identified by EPA as a "major source of water quality impairment"

NPDES Phase II / Rule 13

- **National Pollutant Discharge Elimination System (NPDES)**
- **Federal mandate that addresses storm water pollution (U.S. EPA)**
- **Local governments (cities and counties) required to obtain permit for public storm sewer systems (MS4)**
- **Managed by Indiana DEM (IAC Title 327, Article 15, Rule 13)**

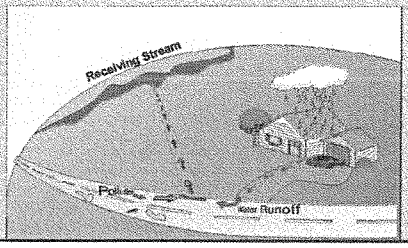
NPDES History

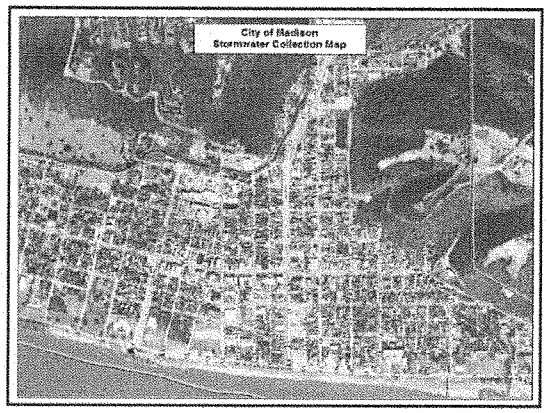
- **permitting component of Clean Water Act**
- **1972, wastewater treatment plants and industrial process water discharges (point sources)**
- **1990, storm water runoff from large cities, certain industries, large construction sites (Phase I - stormwater)**
- **1999, storm water runoff from smaller cities, small construction sites (Phase II - stormwater)**



What's the problem?

- Urban storm water runoff identified by EPA as "major source of water quality impairment"
- Typical pollutants: motor oil, litter, household chemicals, construction site runoff, etc.





4. Construction Site Runoff Control

- **Construction Site Runoff Ordinance**
  - **Chapter 54, adopted in November 2006**
- **Track comments received from the public**
  - **On-going**

5. Post-Construction Storm Water Management

- **Develop and adopt a Post-Construction Runoff Ordinance (under development)**

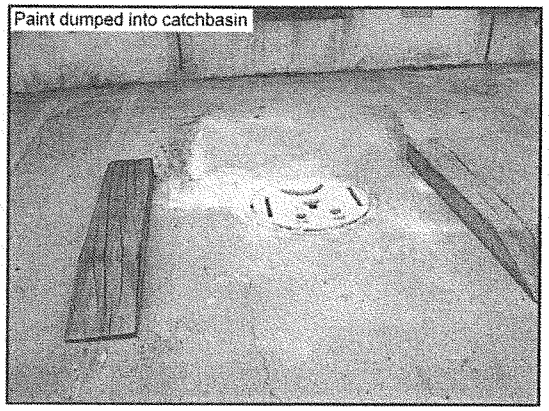
6. Pollution Prevention / Good Housekeeping

- Street Sweeping Program
- Sidewalk and Parking Lot Cleaning
- Public green space maintenance (parks, golf course, street medians)
- Storm Sewer System Cleaning
- Structural BMP (best management practice) program (retention ponds, other controls)
- Municipal Litter Pick-up Program
- Various Street Department BMP's (covered salt storage, spill containment measures, covered vehicle washing area, etc.)

Public Employee Training

What's an illicit discharge?

"Any discharge to a separate storm sewer system that is not composed entirely of storm water ..."
(with some exceptions)



Illicit Discharge Response Actions

- If it needs containment or involves hazardous material, call 911
- If active, approach the discharger and direct him/her to stop the activity
- Document (take pictures, talk to witnesses, etc.)
- Call City Engineer (265-8326)
- Steve Horton – comments / clarification?

Available Resources

- City Ordinance, Chapter 54
- Spill response equipment (Fire Dept)
- Sewer line inspection equipment (Sewer Dept)
- City mapping system

Municipal Operations

Parks Department

- Properly apply and store fertilizers, pesticides, and herbicides
- Minimize contact between vehicle fluids and storm water
- Recycle and re-use when possible (motor oil, antifreeze)
- Control material spills
- No dumping into storm sewers or ditches

Utilities Department

- Properly dispose of material removed from sanitary sewers
- Minimize contact between treatment chemicals and rainwater / storm water
- No dumping into storm sewers or ditches

Appendix 4.1
Ordinance No. 2007-01

1st 1-16-07 2nd 2-6-07 3rd 2-20-07

ORDINANCE NO. 2007-1

AN ORDINANCE OF THE COMMON COUNCIL OF THE CITY OF MADISON, INDIANA REGARDING POST-CONSTRUCTION STORMWATER REGULATIONS

WHEREAS, the Indiana Department of Environmental Management has mandated communities throughout the State of Indiana to adopt post-construction stormwater regulations; and

WHEREAS, it will be beneficial to the health, safety and general welfare of the City of Madison, that it regulate post-construction stormwater runoff; and

WHEREAS, it is in the best interest of the City of Madison, Indiana; that post-construction stormwater regulations be adopted by adding Chapter 55, Post-Construction Stormwater Regulations, to the Code of Ordinances of the City of Madison, Indiana.

NOW, THEREFORE, BE IT RESOLVED THAT THE MADISON CITY CODE BE AMENDED BY ADDING CHAPTER 55, POST-CONSTRUCTION STORMWATER REGULATIONS AS FOLLOWS:

55.01 APPLICABILITY AND PURPOSE.

This chapter applies to all new development and redevelopment activities within the corporation limits of the City of Madison that would result in the disturbance of one (1) or more acres of land, including land disturbing activities on individual lots of less than one acre that are part of a larger common plan of development. The site owner or developer of such a project shall develop a post-construction stormwater pollution prevention plan (SWPPP) which includes the provisions necessary for minimizing the impacts of pollutants from the proposed land use.

55.02 POST-CONSTRUCTION STORMWATER POLLUTION PREVENTION PLAN REQUIREMENTS.

The post-construction SWPPP must include the following information:

(A) A description of potential pollutant sources from the proposed land use that may reasonably be expected to add a significant amount of pollutants to stormwater discharges.

(B) Location, dimensions, detailed specifications, and construction details of all post construction stormwater quality best management practices (BMPs). Reference 55.03 for acceptable stormwater quality BMPs.

(C) A description of BMPs that will be installed to control pollutants in stormwater discharges that will occur after construction activities have been completed. Such practices include infiltration of run-off, flow reduction by use of open vegetated swales and natural depressions, buffer strip and riparian zone preservation, filter strip creation, minimization of land disturbance and surface imperviousness, maximization of open space, and stormwater retention and detention ponds.

(D) A sequence describing when each post-construction stormwater quality BMP will be installed.

(E) Stormwater quality BMPs that will remove or minimize pollutants from stormwater runoff.

(F) BMPs that will be implemented to prevent or minimize adverse impact to stream and riparian habitat.

(G) A narrative description of the maintenance guidelines for all post-construction stormwater quality measures to facilitate their proper long-term function. This narrative description shall be made available to future parties who will assume responsibility for the operation and maintenance of the post-construction stormwater quality BMPs.

Adopted Mar. 7, 2007

Administration and enforcement of this ordinance shall be the same as set forth in 54.11 through 54.17.

SECTION 2. This ordinance shall become effective immediately upon its adoption by the Common Council, signature by the Mayor, enrollment on the Book of Ordinances and publication notices as required by law.

SECTION 3. Any Ordinance in contradiction with this Ordinance is hereby repealed.

The foregoing Ordinance was passed and adopted by the Common Council of the City of Madison, Indiana at a regular meeting held on the 20th day of February, 2007.

Councilman

(SEAL)
ATTEST:

Beverly Armstrong, Clerk-Treasurer

Presented by me to the Mayor of the City of Madison, Indiana, on this 20th day of February, 2007.

Beverly Armstrong
Clerk-Treasurer

Approved and signed this 20th day of February, 2007.

Honorable Albert G. Huntington, Mayor
City of Madison, Indiana

Appendix 4.2
Street sweeper

CITY OF MADISON, INDIANA
STORMWATER PROGRAM

Street Sweeper

Appendix 4.3
Structural Best
Management Practices
(BMPs)

CITY OF MADISON, INDIANA
STORMWATER PROGRAM

Structural Best Management Practice (BMP)
Retention Pond at Johnson Lake Park

Appendix 4.4
Transfer Station Building

CITY OF MADISON, INDIANA
STORMWATER PROGRAM

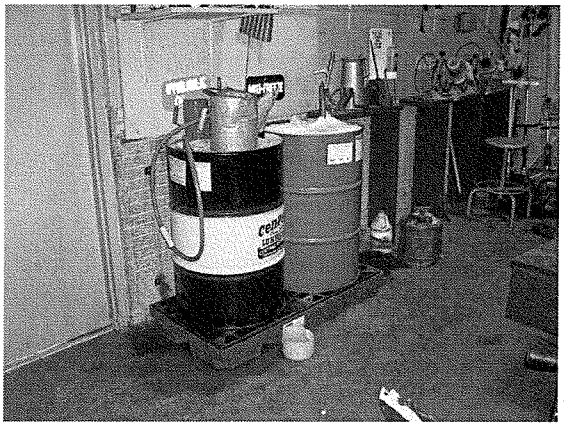
Transfer Station Building

Appendix 4.5
Street Department BMPs

CITY OF MADISON, INDIANA
STORMWATER PROGRAM

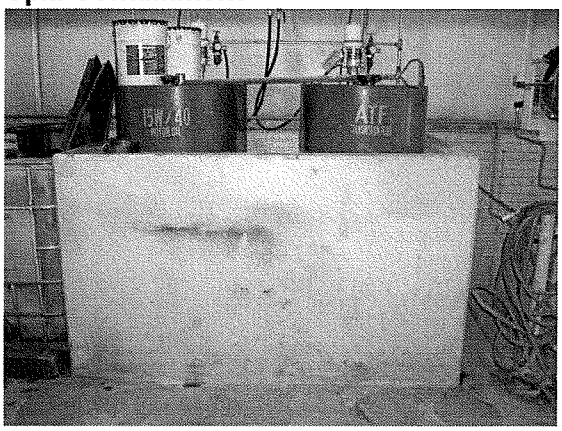
Street Department Best Management Practices (BMPs)

Spill Containment

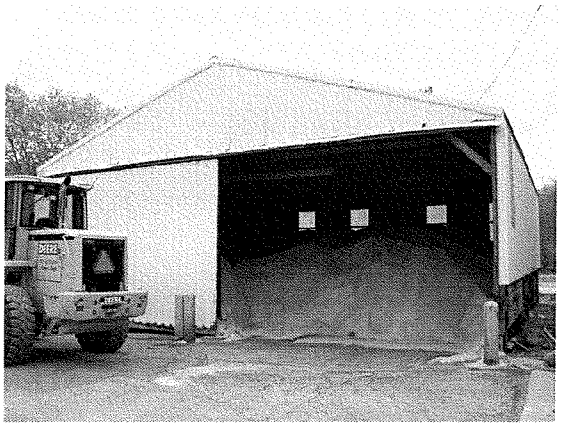


Spill Containment

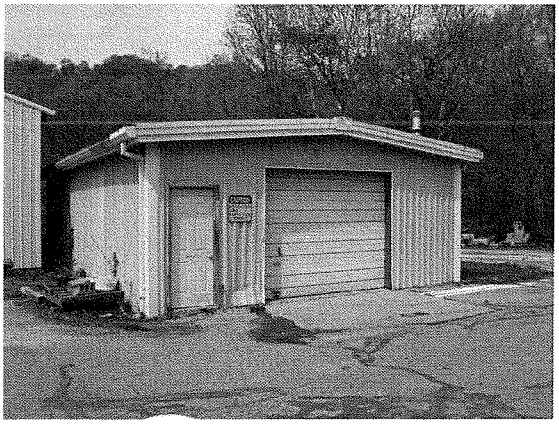
Spill Containment



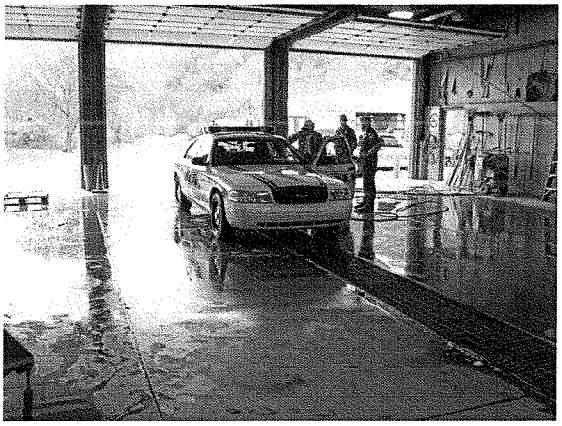
Salt Barn



Fertilizer Storage



Vehicle Washing



Appendix 4.6
Stormwater Drain System
Cleaning Log Sheet

Stormwater Drain System Cleaning Log Sheet

Name:_____

Date:_____

City of Madison

Culvert/Storm Drain Status

Location	Cleaned (Y/N)	Direction Of Flow (N, S, E, W)	Needs Repaired	Comments

Street Department

A 5/20/05

Appendix 4.7
Street Department Cleaning Schedule

Madison Street Department Cleaning Schedule

Street Sweeping

- The Street Department will sweep 40 linear miles of Madison's streets per month during the months of April – November.
- Interiors of catch basins will be cleaned using street vac as needed.

Manually Clean Strom Drains

- The Street Department will clean and visually inspect 100 storm drains per month in warmer weather.
- The Street Department will teleinspect drains as needed.

River Sweep

- The Street Department will assist with River Sweep twice per year as scheduled.

Leaf Pickup

- The Street Department will vacuum 55 miles of streets to collect leaf and woody debris in the fall or winter.

Working Draft – Any needed revisions should be submitted as an appendix in City of Madison, IN Storm Water Quality Management Plan Annual Report due each year in May.

Appendix 4.8
Certification 51274 Form

RULE 13 –
Certification of the Development, Implementation, Management, and Enforcement of a Postconstruction Storm Water Run-Off Control Program for the Postconstruction Storm Water Run-Off Control MCM

State Form 51274 (R4 / 12-03)
INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

For questions regarding this form, contact:
IDEM – Rule 13 Coordinator
100 North Senate Avenue, Rm 1255
P.O. Box 6015
Indianapolis, IN 46206-6015
Phone: (317) 234-1601 or
(800) 451-6027, ext. 41601 (within Indiana)
Web Access:
http://www.in.gov/idem/water/npdes/permits/wetwthr/storm/rule13.html

NOTE:

- This form must be used to comply with section 16(b) and (e) of 327 IAC 15-13.
- The program required under this MCM must be implemented within seven hundred thirty (730) days of the Notice of Intent (NOI) letter submittal date.
- Submit this completed form when the program has been developed and implemented.
- Return this completed and signed form, and any required addenda by mail to the IDEM Rule 13 Coordinator at the address listed in the box on the upper-right.

CERTIFICATION AND SIGNATURE

The State of Indiana requires HONORABLE AL HUNTINGTON MAYOR (MS4 Operator) to develop, implement, manage, and enforce a program to address discharges of postconstruction storm water run-off from new development and redevelopment areas within the regulated MS4 area from all development that disturbs one (1) acre or more of land. As part of this program, an ordinance or other regulatory mechanism must be created or modified, and a written operational and maintenance plan for all structural storm water Best Management Practices (BMPs) must be developed and implemented. This program, associated legal authorities and plan must be implemented within seven hundred thirty (730) days of the Notice of Intent (NOI) letter submittal date.

► The following statement, required by the State of Indiana, and the accompanying signature serve as the required certification that the program has been developed and implemented per the requirements of 327 IAC 15-13 and authorized under NPDES permit number INR040 061.

"I certify, under penalty of law, that this program and all required documents and materials were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the above statement is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Authorized Signature[1]: Albert H. Huntington **Date:** 4/27/07
(mm/dd/year)

Title[2]: HONORABLE MAYOR - MS4 OPERATOR
(typed or printed)

[1]The "authorized signature" required above must be either that of the MS4 operator, or, if another entity is responsible for this MCM, the responsible individual.
[2]The "title" must either be "MS4 operator", or, if a responsible individual signs, the title of that individual and associated MS4 entity represented (for example, mayor of the City of Indianapolis).

Appendix 4.9
Monthly Construction
Summary

RULE 13 –
Monthly Summary Report of Construction Projects

State Form 51276 (R3 / 11-03)
INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

For questions regarding this form, contact:
IDEM – Rule 13 Coordinator
100 North Senate Avenue, Rm 1255
P.O. Box 6015
Indianapolis, IN 46206-6015
Phone: (317) 234-1601 or
(800) 451-6027, ext. 41601 (within Indiana)
Web Access:
http://www.in.gov/idem/water/npdes/permits/wetwthr/storm/rule13.html

NOTE:

- Starting one (1) year after the submittal of the Notice of Intent (NOI) letter and once the regulated MS4 entity has a sufficient construction site storm water run-off control program, this completed form must be submitted each month pursuant to 327 IAC 15-13-18(b).
- This completed form must be submitted by the last day of the following month.
- If no projects occur within a given month, this form does not need to be submitted.
- This exact form does not need to be used if the information is conveyed using a form of another format containing the same type of information - providing the form is preapproved by, and provided to, IDEM.
- Return this completed and signed form, and any required addenda by mail to the IDEM Rule 13 Coordinator at the address listed in the box on the upper-right.

Reporting Month/Year: (check one in each column)	X	Month	X	Year
	☐	January	☐	2005
	☐	February	☐	2006
	☒	March	☐	2007
	☐	April	☐	2008
	☐	May	☐	2009
	☐	June	☐	2010
	☐	July	☐	2011
	☐	August	☐	2012
	☐	September	☐	2013
	☐	October	☐	2014
	☐	November	☐	2015
	☐	December	☐	2016

MONTHLY SUMMARY REPORT OF CONSTRUCTION PROJECTS

	Project Name	Project Address	Project Duration	Permit Status	Enforcement Actions
1	ARVIN SANGO, INC (Phase I)	SE Corner of Wilson Ave & CR 310N MADISON, IN	1 YEAR	PLAN REVIEWED NO SUBMITTED CONSTR.	NONE
2		Sec 16/21 T4N R10E		IN PROGRESS	
3					
4					
5					
6					
7					
8					
9					
10					

MS4 Entity: CITY OF MADISON, INDIANA *(typed or printed)*

NPDES Permit #: INR040 061

Responsible Individual*: Al Huntington HONORABLE AL HUNTINGTON, MAYOR *(typed or printed)* MS4 OPERATOR

Date: 4/27/07 *(mm/dd/year)*

*Example: the individual can be the MS4 Operator, or a responsible individual for a regulated MS4 entity.